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Numbers in Action

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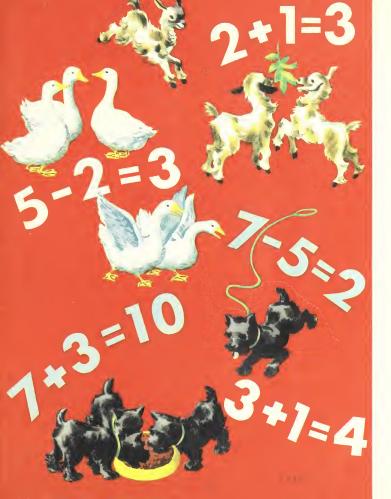
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Numbers in Action

by Maurice L. Hartung
Henry Van Engen
Catharine Mahoney
and A. B. Evenson

W. J. Gage Limited

TORONTO MONTREAL

THIS IS THE SECOND BOOK OF THE BASIC MATHEMATICS PROGRAM, WHICH IS A UNIT OF THE CURRICULUM FOUNDATION SERIES,

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FOR INFORMATION ABOUT THE USE OF THIS BOOK AND A SUMMARY OF THE CONTENTS SEE PAGES 141 TO 144.

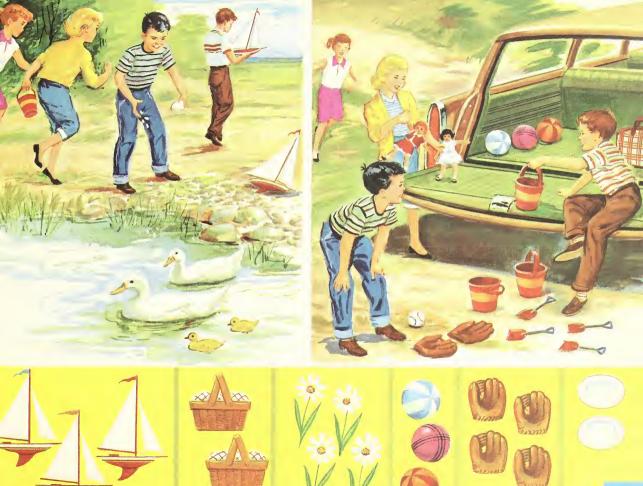
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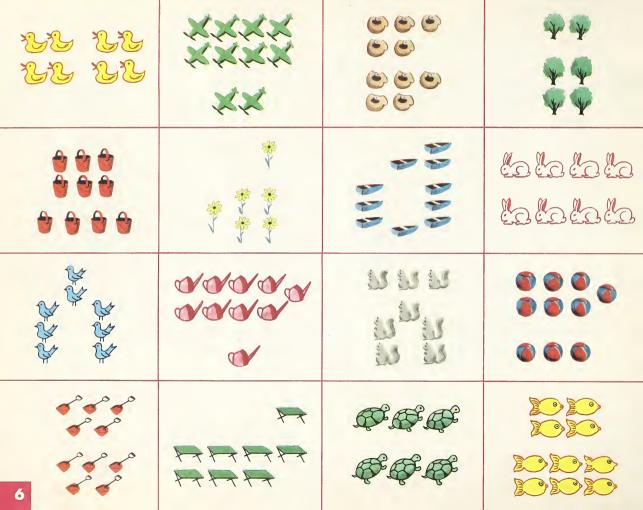
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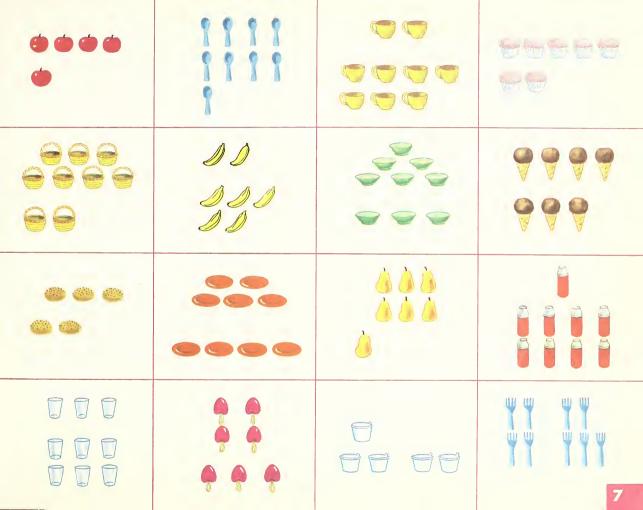


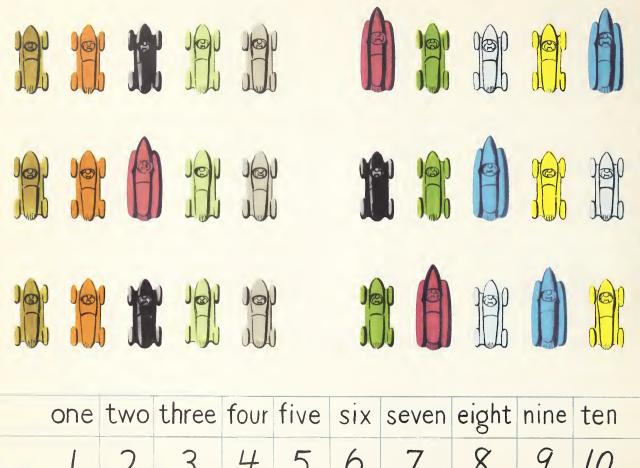


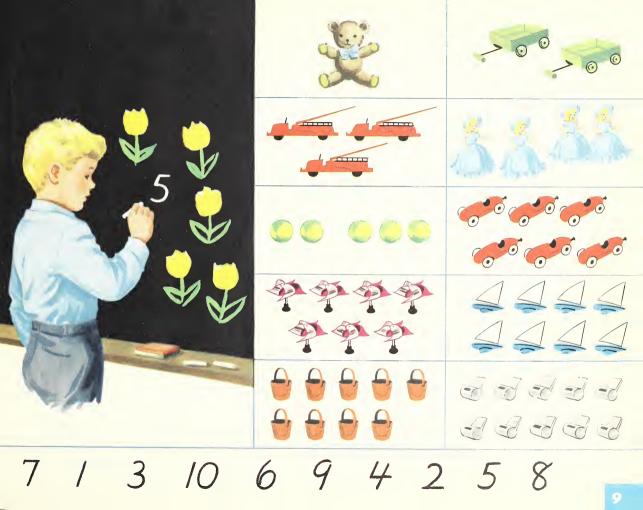


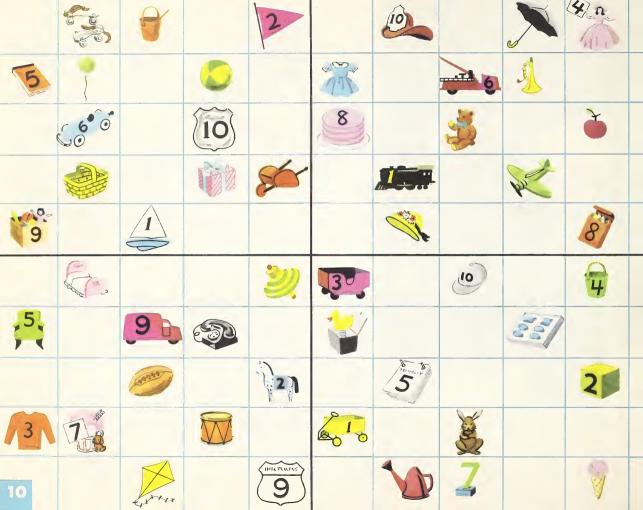


































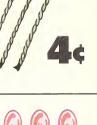


































































3 dogs are eating.

2 more dogs are running to eat.

Then 5 dogs will be eating.

3 dogs and 2 dogs are 5 dogs.

3 dogs plus 2 dogs are 5 dogs.

4 rabbits are in the yard.

1 more rabbit is running into the yard.

Then 5 rabbits will be in the yard.

4 rabbits and 1 rabbit are 5 rabbits.

4 rabbits plus 1 rabbit are 5 rabbits.

1 pig is eating.

4 more pigs are running to eat.

Then how many pigs will be eating?

1 pig and 4 pigs are 5 pigs.

1 pig plus 4 pigs is 5 pigs.

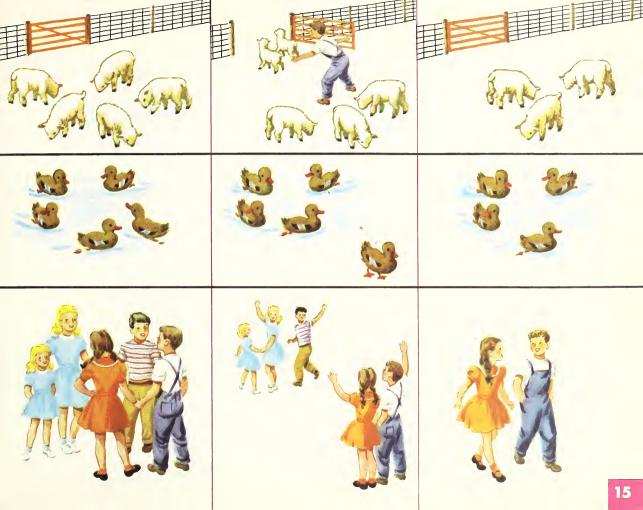
2 squirrels are eating.

3 more squirrels are running to eat.

Then how many squirrels will be eating?

2 squirrels and 3 squirrels are 5 squirrels.

2 squirrels plus 3 squirrels are 5 squirrels.



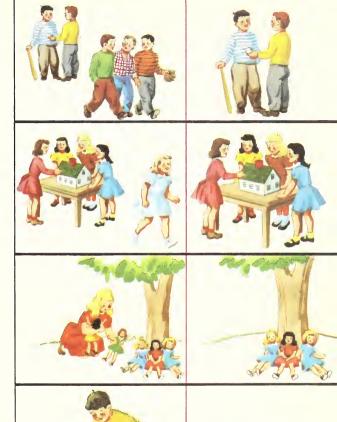


5 boys were playing ball.3 boys are going away.Then 2 boys are left to play ball.5 boys minus 3 boys are 2 boys.

5 girls were playing house.1 girl is going away.Then 4 girls are left to play house.5 girls minus 1 girl are 4 girls.

5 dolls were in the yard.Carol took 2 dolls into the house.Then how many dolls were in the yard?5 dolls minus 2 dolls are 3 dolls.

5 toy cars were in the yard.A boy took away 4 of the toy cars.Then how many toy cars were in the yard?5 cars minus 4 cars are 1 car.







A 3 oranges plus 2 oranges are oranges. 5 birds minus 2 birds are birds. 1 bird plus 4 birds is **m** birds. 5 oranges minus 3 oranges are -----4 oranges plus 1 orange are -----5 birds minus 4 birds are ~~~~ 2 birds plus 3 birds are -----5 oranges minus 1 orange are -----A 4 chickens plus 1 chicken are -----B 5 pigs minus 2 pigs are pigs. c 5 kittens minus 4 kittens are -----2 chickens plus 3 chickens are ——— 5 dogs minus 1 dog are dogs. 5 kittens minus 3 kittens are -----G 3 pigs plus 2 pigs are ~~~~ H 1 dog plus 4 dogs is ■ dogs. 5 chickens minus 3 chickens are -----2 dogs plus 3 dogs are ~~~~ K 1 pig plus 4 pigs is -----5 chickens minus 4 chickens are







2 children are playing in the yard.1 more child is running to play.Then how many children are playing?2 children plus 1 child are 3 children.

1 child has some apples.2 children are running for some apples.Then how many children have apples?1 child plus 2 children is 3 children.

Don has 3 boats. He is going to put 1 boat away. Then how many boats are left? 3 boats minus 1 boat are 2 boats.

3 dogs were playing with Billy.
2 of the dogs are running to play with Don.
Then Billy will have ■ dog to play with.
3 dogs minus 2 dogs are 1 dog.

2 girls plus 1 girl are \equiv girls.

3 bottles minus 1 bottle are bottles.

1 boy plus 1 boy is boys.









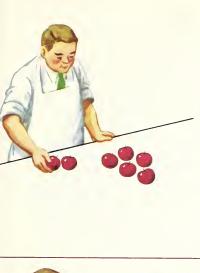




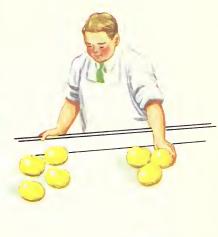








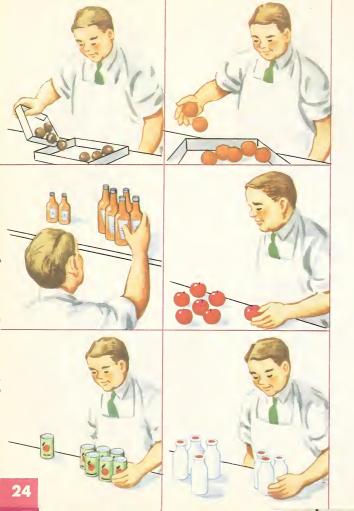












How many cookies are in the big box?
How many more are going into this big box?
Then how many cookies will be in the box?
3 cookies and 4 cookies are 7 cookies.
3 cookies plus 4 cookies are cookies.

How many oranges are in the box?

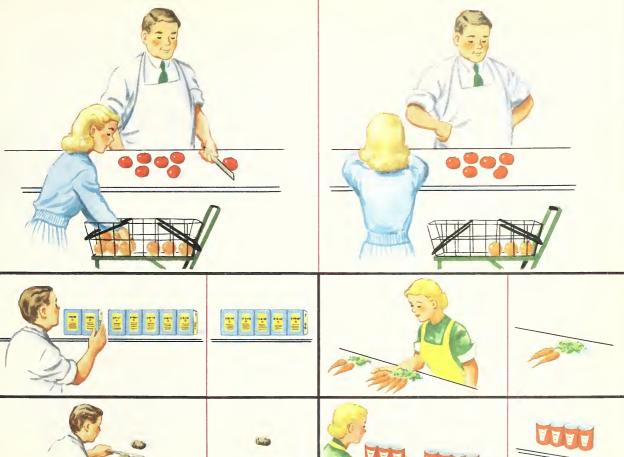
How many more are going into the box?

Then how many oranges will be in the box?

5 oranges and 2 oranges are 7 oranges.

5 oranges plus 2 oranges are oranges.

- 2 bottles and 5 bottles are 7 bottles.
- 2 bottles plus 5 bottles are bottles.
- 6 apples and 1 apple are 7 apples.
- 6 apples plus 1 apple are -----
- 1 can and 6 cans are **cans**.
- 1 can plus 6 cans is -----
- 4 bottles and 3 bottles are bottles.
- 4 bottles plus 3 bottles are ----









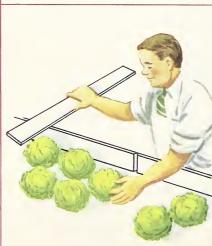














How many boxes are there in all?
How many boxes is the man taking away?
How many boxes will be left?
7 boxes minus 2 boxes are boxes.

How many cans are there in all?

How many cans is the man taking away?

How many cans will be left?

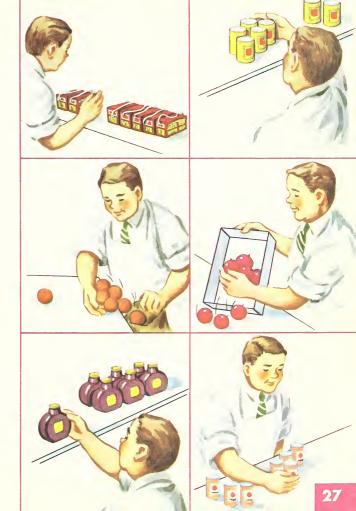
7 cans minus 5 cans are cans.

How many oranges are there in all?
How many oranges is the man taking away?
How many oranges will be left?
7 oranges minus 6 oranges are

How many apples are there in all?
How many apples is he taking from the box?
How many apples will be left in the box?
7 apples minus 3 apples are ———

7 bottles minus 1 bottle are -----

7 cans minus 4 cans are -----









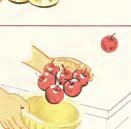














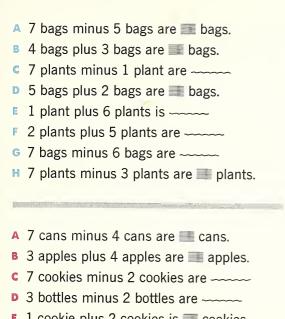


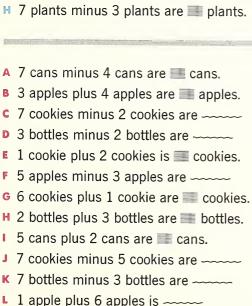


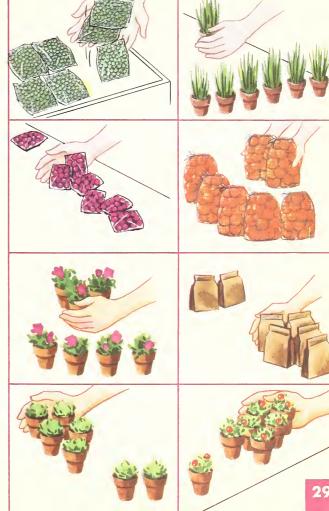
















How many girls are standing at the store?
How many more girls are going to the store?
Then how many girls will be at the store?
3 girls plus 4 girls are 7 girls.

3 girls + 4 girls are 7 girls.

3 plus 4 is 7.

3+4 is 7.

How many boys are standing in the yard?
How many boys are running into the yard?
Then how many boys will there be?
2 boys plus 3 boys are 5 boys.
2 boys+3 boys are 5 boys.

2 plus 3 is 5. 2+3 is 5.

▲ 5+2 is 🚞	н 3+2 is =
B 2+1 is ■	6+1 is
c 1+6 is	』 1+2 is 🔙
▶ 4+3 is	ĸ 2+5 is =
€ 4+1 is 	L 1+4 is ■
F 2+5 is	м 6+1 is ■
G 1+1 is ■	N 2+1 is

How many cars do the boys have? How many cars is Don taking away? How many cars will be left? 7 cars minus 2 cars are 5 cars. 7 cars - 2 cars are 5 cars. 7 minus 2 is 5. 7-2 is 5.

How many girls are there in all? How many girls are going away? How many girls will be left? 5 girls minus 3 girls are 2 girls. 5 girls - 3 girls are 2 girls. 5 minus 3 is 2. 5-3 is 2.

A 5-4 is**B** 7−1 is c 3−2 is 7-6 is K 5-1 is =**■** 7−3 is

 \mathbf{F} 3-1 is

G 5-1 is

+ 5-2 is

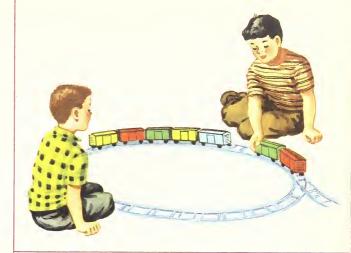
1 3−1 is

J 7−4 is

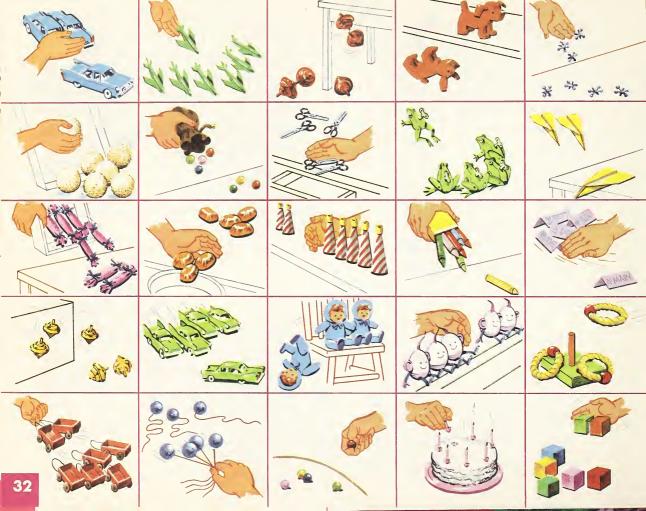
L 7−5 is =

M 5 - 3 is

N 7-6 is =







- **A** 1+1 is 2.
- $^{\rm B}$ 1+2 is 3.
- c 2+1 is 3.
- □ 1+4 is 5.
- € 4+1 is 5.
- F 2+3 is 5.
- G 3+2 is 5.
- H 1+6 is 7.
- 6+1 is 7.
- \mathbf{J} 2+5 is 7.
- κ 5+2 is 7.
- 3+4 is 7.
- M 4+3 is 7.
- △ 4+1 is
- ₃ 1+6 is **=**
- c 2+5 is
- 3+4 is
- 2+3 is
- ₹ 5+2 is **=**
- G 1+2 is ■
- H 3+2 is ■

- A 2-1 is 1.
- **B** 3-1 is 2.
- \circ 3-2 is 1.
- 5-1 is 4.
- 5-2 is 3.
- 5-3 is 2.
- \mathbf{G} 5-4 is 1.
- H 7-1 is 6.
- 1 2 is 5.
- $\sqrt{3}$ 7-3 is 4.
- κ 7-4 is 3.
- -5 is 2.
- M 7-6 is 1.
- 5-3 is
- 3−1 is
- 7−5 is
- 5-4 is
- 3−2 is
 - 7 2:
 - 7−3 is
 - 5-2 is
 - 7-4 is

- A Two boats plus one boat are boats.
- **B** 5 balls minus 2 balls are **m** balls.
- c 2 oranges plus 5 oranges are -----
- 3 kittens plus 2 kittens are ≡ kittens.
- **E** Seven cows minus four cows are **cows**.
- **F** 5 pigs minus 4 pigs are ———
- **G** Seven bags minus six bags are -----
- H 3 chickens plus 4 chickens are ~~~~~
- 5 baskets minus 3 baskets are -----
- J One box plus four boxes is ≡ boxes.
- K Seven birds minus two birds are -----
- Four books plus three books are ————
- **M** 2 squirrels plus 3 squirrels are ———
- N Seven dolls minus five dolls are dolls.
- 3 bottles minus 1 bottle are bottles.
- Six children plus one child are -----
- Five wagons plus two wagons are ———
- **R** 4 plants plus 1 plant are \equiv plants.
- **s** Three apples minus two apples are -----
- Seven rabbits minus three rabbits are ~~~~
- **u** Five men minus one man are \equiv men.
- v 1 child plus 2 children is -----





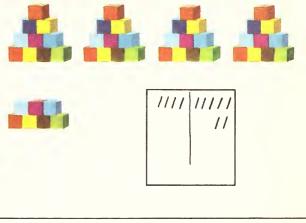
How many rabbits are eating?
How many rabbits are running to eat?
Then how many rabbits will be eating?
5 rabbits plus 2 rabbits are ————
Add 5 rabbits and 2 rabbits.
Then you have 7 rabbits.

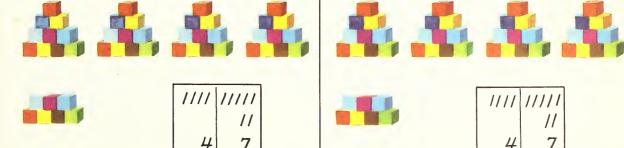
Add 5 and 2.	5+2 is
B Add 3 and 1.	3+1 is
c Add 1 and 1.	1+1 is
Add 4 and 3.	4+3 is

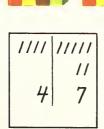
How many dogs are there in all?
How many dogs are running away?
Then how many dogs will be left?
5 dogs minus 1 dog are
Subtract 1 dog from 5 dogs.
Then you have 4 dogs.

Subtract 1 from 5.	5-1 is
Subtract 2 from 7.	7-2 is
G Subtract 1 from 3.	3−1 is =
н Subtract 5 from 7.	7−5 is 📰



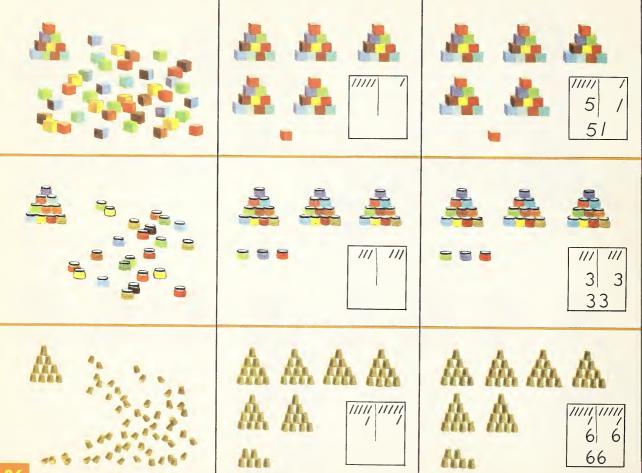


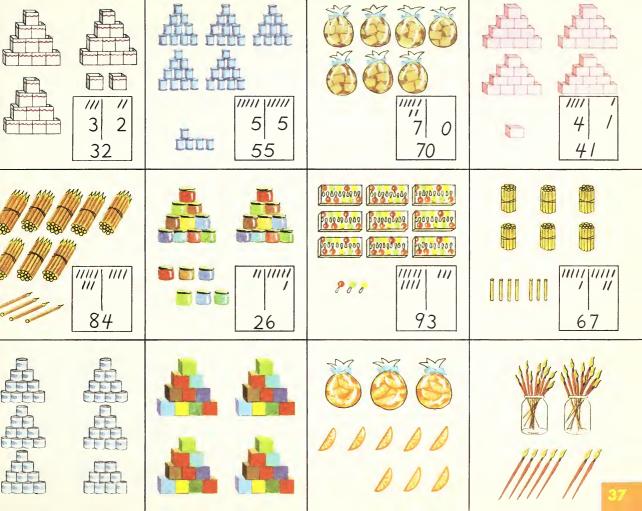


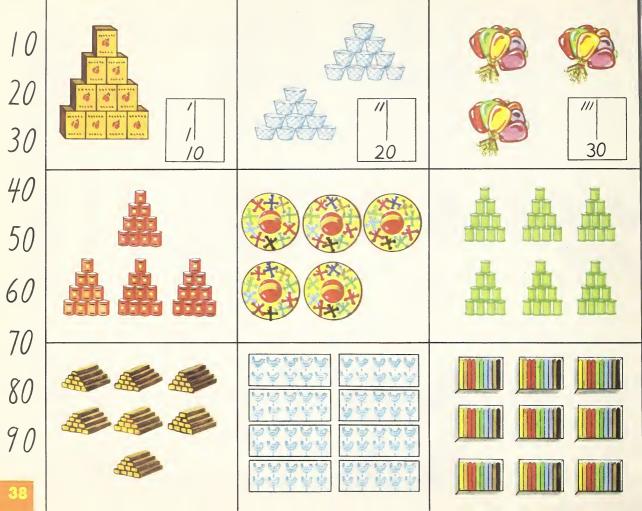


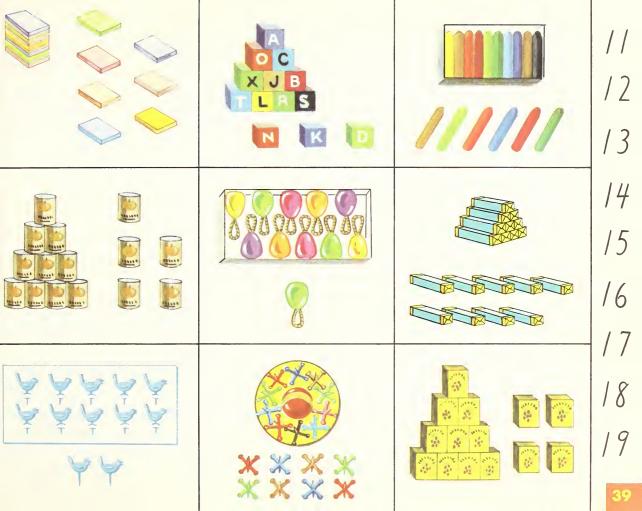


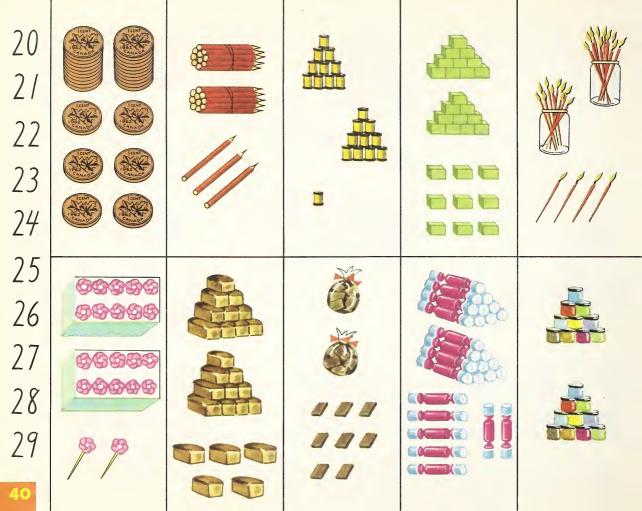


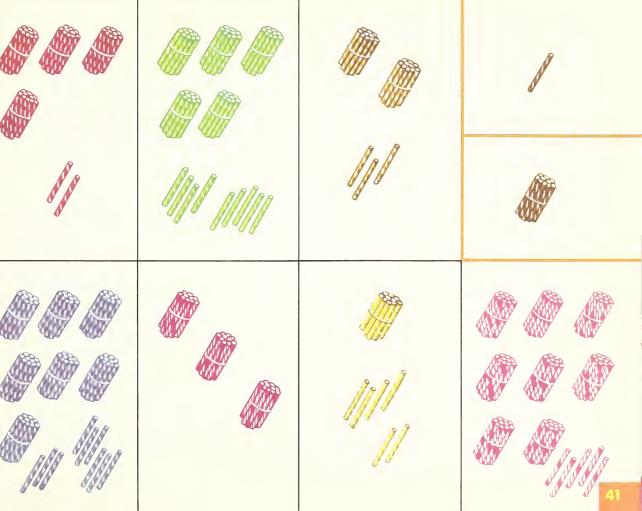


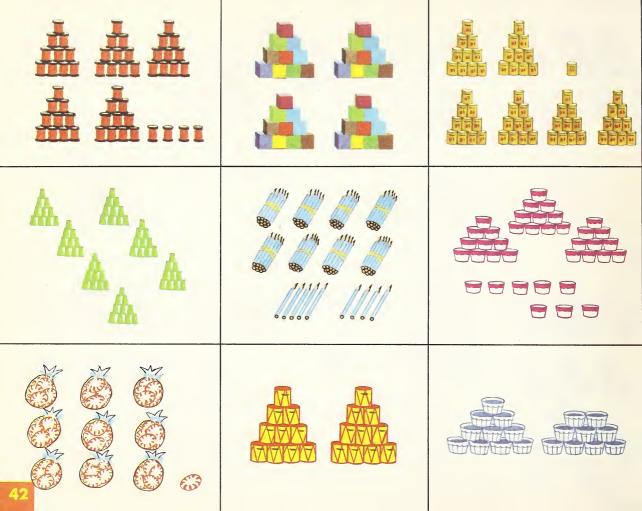




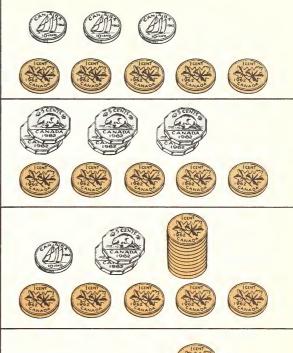




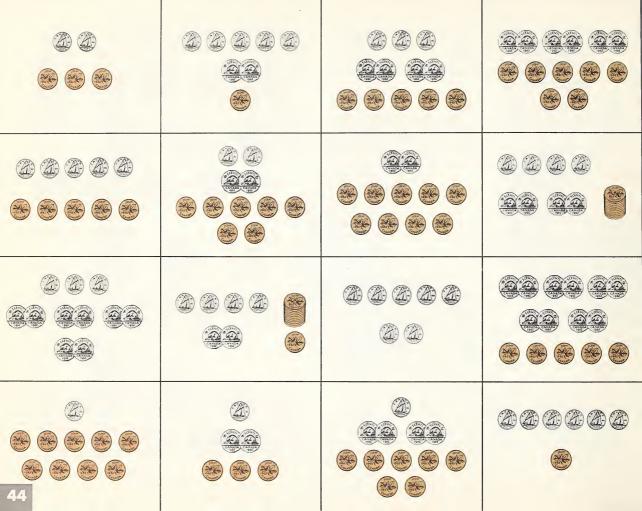








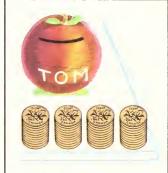




- A Don has **c**.
- B Carol has \$\infty\$\cdot\cdot\$.
- c Has Carol more money than Don?
- Tom has ■¢.
- Ellen has <u>■</u>¢.
- F Has Tom more money than Ellen?
- G Has Tom less money than Ellen?
- H Has Ellen more money than Tom?
- Ellen is taking = ¢ away.
- Ellen will have \(\equiv\)\$\(\text{left.}\)
- K Will Ellen have less money than Tom?
- Nancy has ≡ ¢.
- M Billy has \(\boxed{\opensight}\)\$\text{\text{\$\opensight}}\$\text{\$\opensight}\$.
- N Has Nancy more money than Billy?
- Has Billy less money than Ellen?
- Has Tom less money than Don?
- Q Don and Carol have \(\bigcirc \cdot\) in all.
- R Tom and Ellen have ≡€ in all.
- 5 Don, Carol, and Ellen have \(\equiv \) in all.
- Ellen and Nancy have \(\bigcirc \) in all.
- Don and Tom have ==¢ in all.





























Carol has made 4 snowmen. How many snowmen has Don made? How many snowmen are there in all? 4 snowmen plus 2 snowmen are ~~~~ 4+2 is 4 plus 2 is How many sleds do the boys have? How many sleds are there for the girls? How many sleds are there in all? 3 sleds plus 3 sleds are ~~~~ 3 plus 3 is == 3+3 is How many children are on the sled? How many children are running to the sled? 5 children plus 1 child are -----5 plus 1 is **=** 5+1 is 2 snowballs plus 4 snowballs are -----2+4 is 2 plus 4 is 3 boys plus 3 boys are -----3 plus 3 is == 3+3 is 1 boy plus 5 boys is -----1 plus 5 is 1+5 is

























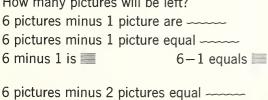








How many sleds has Don made? How many sleds is Don taking away? How many sleds will be left? 6 sleds minus 3 sleds are -----6 sleds minus 3 sleds equal sleds. 6 minus 3 is = 6-3 equals =How many pictures has Ellen made? How many pictures is Ellen taking away? How many pictures will be left?



6 snowmen minus 5 snowmen equal -----6 minus 5 equals ■ 6−5 equals ■

6 sleds minus 4 sleds equal -----6 minus 4 equals 6-4 equals

6 pictures minus 2 pictures equal -----6 minus 2 equals ■ 6−2 equals ■









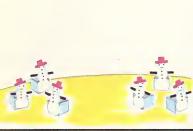






















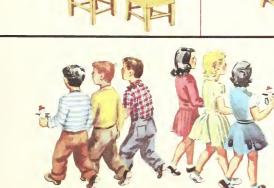




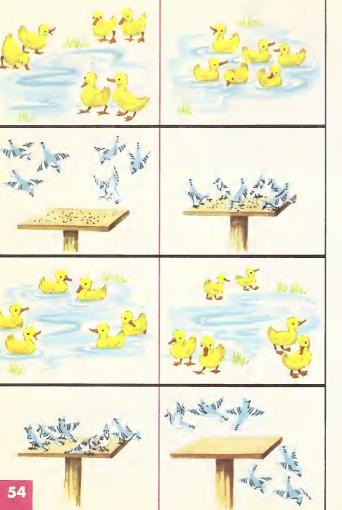












The ducks are going to the pond in groups. How many groups of ducks are there? How many ducks are in each group? Now how many ducks are in the pond? 3 groups of 2 ducks equal 6 ducks.

The birds are flying to eat.

How many groups of birds are there?

How many birds are in each group?

Now how many birds are eating?

2 groups of 3 birds equal 6 birds.

How many ducks are in the pond? They are going from the pond in groups. How many ducks are in each group? How many groups of ducks are there? 6 ducks equal 3 groups of 2 ducks each.

How many birds are there in all?
The birds are flying away in groups.
How many birds are in each group?
How many groups of birds are there?
6 birds equal 2 groups of 3 birds each.

How many chickens are eating? How many more chickens are running to eat? Then how many chickens will be eating?

4 chickens plus 2 chickens equal -----

4 chickens+2 chickens=6 chickens 4 plus 2 equals 6.

How many rabbits are there in the yard?

4+2=6

How many rabbits are running away?

How many rabbits will be left in the yard?

5 rabbits − 3 rabbits = ■ rabbits

The birds are flying in threes.

2 groups of 3 birds each= birds

2 threes=

The ducks are going from the pond in twos. 6 ducks= groups of 2 ducks each

6= twos
3 birds+3 birds= birds 3+3=

7 ducks-2 ducks= ducks 7-2=

3 groups of 2 chickens each= chickens

6 rabbits= groups of 3 rabbits each

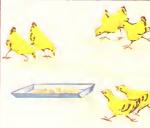














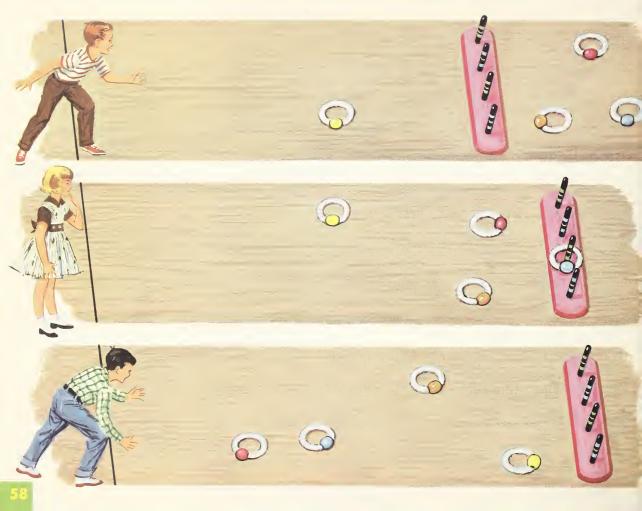




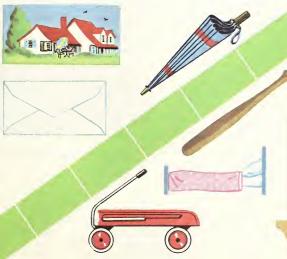
- $A \ 1+1=2$ $A \ 2-1=1$
- **B** 1+2=3 **B** 3−1=2
- c 2+1=3 c 3-2=1
- D 1+4=5 D 5-1=4
- **E** 4+1=5 **E** 5−2=3
- **F** 2+3=5 **F** 5−3=2
- 3+2=5 5-4=1
- **H** 1+5=6 **H** 6−1=5
- 5+1=6 6-2=4
- J 2+4=6 J 6−3=3
- **K** 4+2=6 **K** 6−4=2
- **1** 3+3=6 **1** 6−5=1
- M 1+6=7 M 7-1=6
- N 6+1=7 N 7-2=5
- 2+5=7 **○** 7-3=4
- \bigcirc 3+4=7 \bigcirc 7-5=2
- R 4+3=7 R 7-6=1
 - \mathbb{A} 3 twos=6
 - B 2 threes=6
 - 6=3 twos
 - 6=2 threes

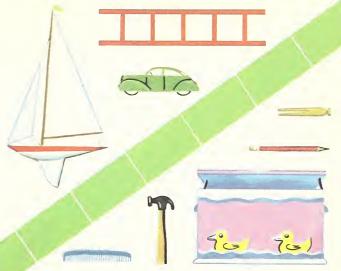
- Five minus three equals
- 4 plus 2 equals 🔤
- Two plus three equals
- 5 minus 2 equals
- 6 minus 3 equals
- 2 groups of 3 equal
- Seven minus three equals ==
- 2 plus 4 equals
- 3 groups of 2 equal
- Six minus two equals
- 🖟 5 plus 2 equals 🔙
- 4 plus 3 equals
- M Six equals M groups of three.
- One plus five equals
- Six minus five equals
- 🤊 5 plus 1 equals 🔙
- □ 1 plus 4 equals
 ■
- Six equals groups of two.
- Four plus three equals ■
- T Six minus one equals
- Seven minus five equals
- v 3 plus 4 equals 📰

- **A** 7−3=
- в 5-3=
- c 1+4=
- **D** 1+6=
- **E** 7−5=
- F 4+2=
- **G** 5+1=
- **H** 6-2=
- 2+3=
- J 5-1=
- к 3+3=
- 6 5
- L 6-5=
- M 4+3=■
- N 5+2=■
- o 6-4=
- P 7−4=
- **Q** 1+5=
- R 2+4=
- s 6-1=
- **T** 5−2=
- **u** 6−3=
- **v** 2+5=

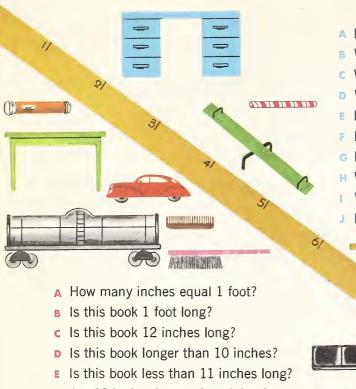


- A The toy umbrella is inches long.
- Which toy is longer than the umbrella?
- Which toys are longer than the toy boat?
- Which toys are just as long as the toy umbrella?
- Which toys are just 1 inch long?
- F Which toy is longer than 2 inches?
- Is there a toy more than 3 inches long?
- H Is there a toy less than 1 inch long?
- Which toys are less than 2 inches long?



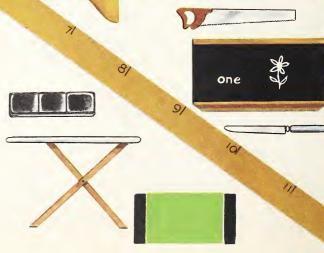


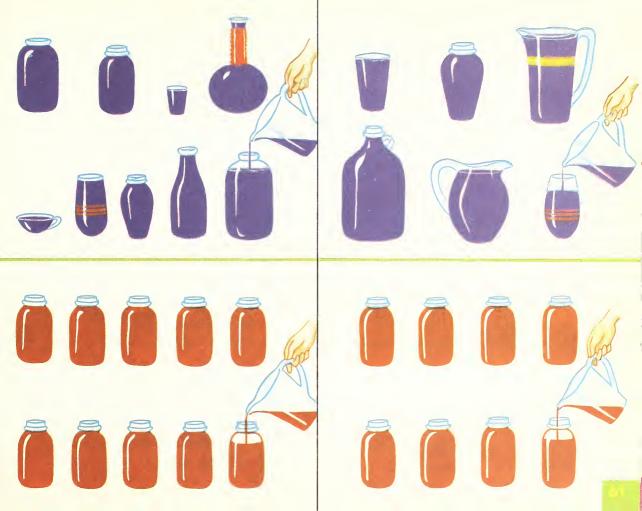
- Is the picture longer than the wagon?
- B Is the wagon longer than the box?
- Which toys are just as long as the boat?
- Which toy is just as long as the car?
- Is the boat more than 1 inch long?
- F Is the boat less than 2 inches long?
- Which toys are more than 1 inch long and less than 2 inches long?
- Which toy is more than 2 inches long and less than 3 inches long?

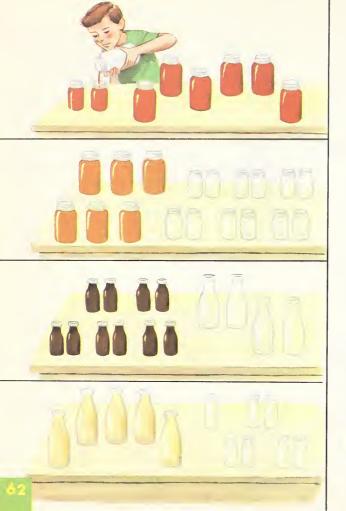


- A Is the table less than two inches long?
- Which toys are just as long as the table?
- Which toy is a little shorter than 1 inch?
- Which toy is just one inch long?
- Is there a toy more than 4 inches long?
- Is there a toy just four inches long?
- Is the box shorter than the table?
- H Which toys are just two inches long?
- Which toys are longer than two inches?
- Is the car shorter than the table?

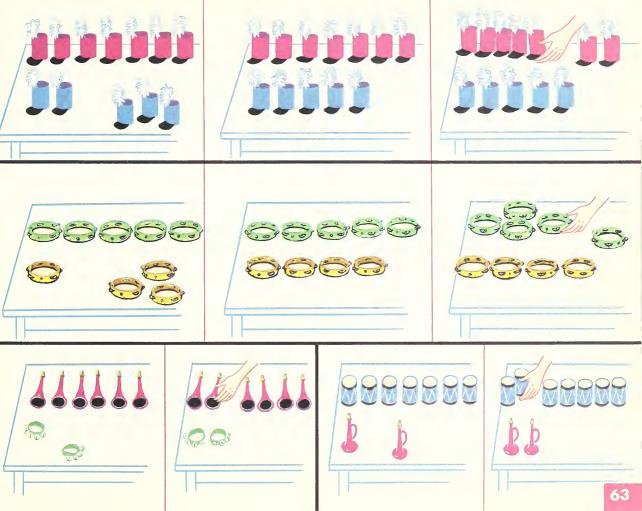
- F Are 13 inches longer than 1 foot?
- G Are 2 inches plus 4 inches longer than 1 foot?
- H Are 11 inches longer than or shorter than 1 foot?

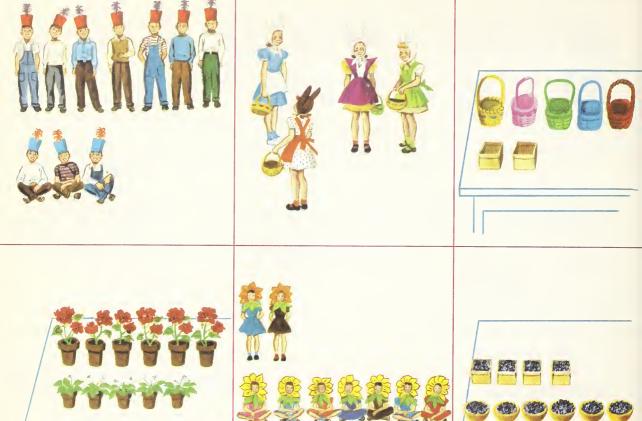






- A 3 twos=
 - 1 quart = 2 pints
 - 3 quarts= pints
- **B** 6=**■** twos
 - 2 pints=1 quart
 - 6 pints= quarts
- c 1 pint plus 1 pint equals -----
- 2 pints plus 2 pints equal = pints.
- E 2 pints plus 2 pints equal ≡ quarts.
- Are 3 pints more than 1 quart?
- G Are 3 pints less than 1 quart?
- н 1 quart plus 1 quart equals 🚞 pints.
- Are 2 quarts more than 3 pints?
- Are 2 quarts less than 3 pints?
- 1 quart plus 2 pints equals = quarts.
- M 2 pints plus 1 quart equal ≡ pints.
- N 3 bottles of 2 pints each equal pints.
- 3 groups of 2 pints each equal pints.
- 6 pints= bottles of 2 pints each
- Q 6 pints = groups of 2 pints each









Some girls are playing they are rabbits. How many more white rabbits are there than brown rabbits?

Subtract as many white rabbits as there are brown rabbits.

3 white rabbits − 2 white rabbits =

There is more white rabbit.

How many more bears are there than rabbits? Subtract as many bears as there are rabbits. 6 bears—1 bear=———

How many more wagons are there than cars? How many wagons do you subtract? 6 wagons - 3 wagons = -----

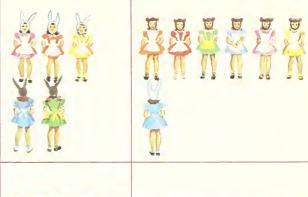
How many more little plants are there than big plants?

How many little plants do you subtract?

7 little plants – 4 little plants = ----

7 yellow flowers – 6 yellow flowers = ----

5 big baskets - 3 big baskets = ----



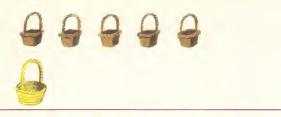






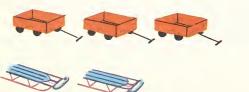












How many more brown baskets are there than yellow baskets?

How many brown baskets do you subtract? 5 brown baskets—1 brown basket=———

How many more kittens are there than dogs?
How many kittens do you subtract?

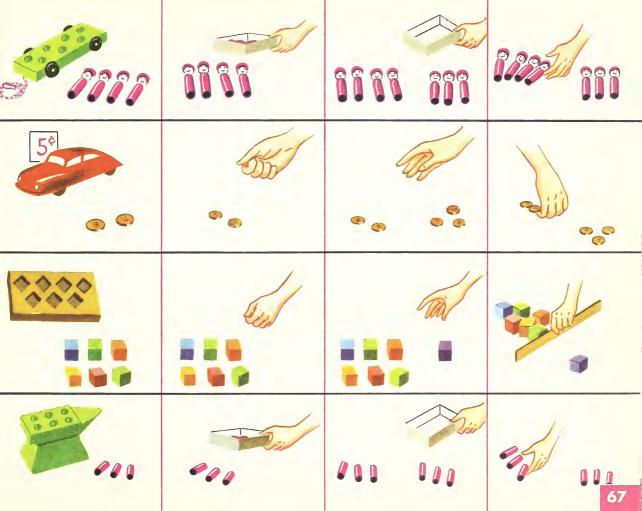
6 kittens – 4 kittens – 6 – 4 = =

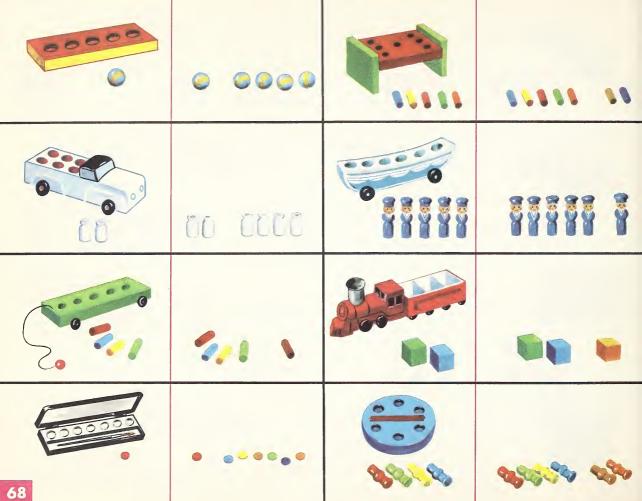
Are there more little cars than big cars? How many more little cars are there? How many little cars do you subtract? 7 little cars—1 little car—

There are how many more wagons than sleds? How many wagons do you subtract?

$$3 \text{ wagons} - 2 \text{ wagons} = 3 - 2 = 100$$

$$6-2=$$





Nancy needs as many beds as she has dolls.

Nancy needs how many more beds?

Nancy will have 3 beds plus

more beds.

You can subtract the 3 beds she has

from 5 beds.

Ellen needs a cookie for each girl.

She needs how many more cookies?

Ellen will have 2 cookies plus == cookies.

You can subtract the 2 cookies she has from 6 cookies.

6 cookies-2 cookies= cookies 6-2+ 6-2=

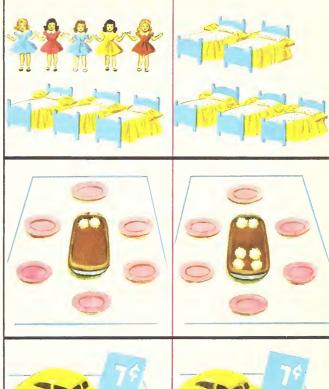
Don can buy the car with == pennies.

He needs how many more pennies?

Don will have 4 pennies plus
pennies.

You can subtract the 4 pennies he has from 7 pennies.

7 pennies−4 pennies=≡ pennies















Don needs how many more bottles?

Don will have 4 bottles plus ■ bottles.

You can subtract the 4 bottles he has from 6 bottles.

6 bottles-4 bottles=

6=4+ 6-4=

Don needs how many more pennies? He needs 2 pennies plus pennies.

5 pennies - 2 pennies = ----

5=2+ 5-2=

Billy needs 3 balls plus more balls.

7 balls=3 balls=

7=3+ 7-3=

Carol needs 1 ball plus more balls.

3=1+ 3-1=

A 6=1+ 6-1=

B 5=4+**■** 5−4=**■**

c 7=6+**=** 7-6=**=**

E 7=1+= 7-1==

Tom had 5 little toy wagons.

He took 2 little toy wagons away.

How many little toy wagons were left?

Carol had 3 cookies.

She made 2 more cookies.

Then Carol had how many cookies?

5 boxes were on the table.

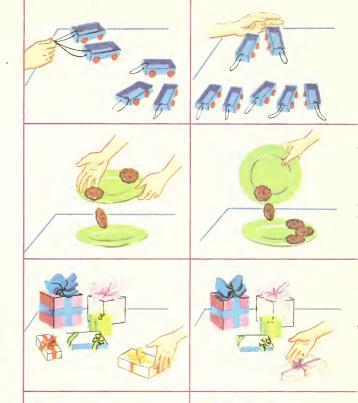
Ellen took 1 box away.

Then boxes were on the table.

Don had 6 books on the table.

He put 1 more book on the table.

Then he had books on the table.





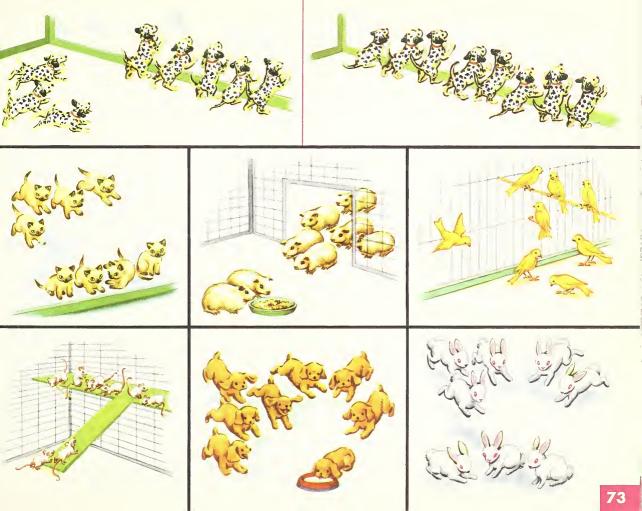


- A 6=3+
- $B 7 = 1 + \blacksquare$
- c 5-4=
- D 2 threes=
- **E** 7−2=
- F 5=1+
- G 6=4+
- H 6+1=
- 5+2=
- J 2+1=
- K 6=≡ twos
- L 3−1=
- M6=5+
- N 7=3+
- o 5−1=
- P 5=3+
- 7−3=
 ■
- $R 7 = 4 + \blacksquare$
- s 5=4+
- T 6-3=
- U 1+1=
- √ 3 twos=

- A7 = 5 + 3
- B 5=2+
- c 4+3==
- ▶ 7-1=
- **■** 2-1=
- F 3+4=
- G7=6+
- H 4+2=
- 6=2+
- J 7-4=
- K 3=2+■
- L 6−5=
- $M7 = 2 + \blacksquare$
- N 6=

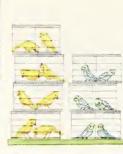
 threes
- o 6=1+
- P 6-4=
- Q 6-2=
- R 5-3=
- **5** 2+3=
- **™** 3=1+
- **U** 5−4=
- V 2+5=■

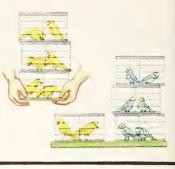
- One quart= pints
- Are 14 inches shorter than 1 foot?
- Three quarts= pints
- Two nickels= cents
- Ten pennies = one -----
- F One nickel= cents
- One dime= nickels
- ∀ Six pints = quarts
- Add three inches and four inches.
- Subtract 4 oranges from 6 oranges.
- Add two books and three books.
- Add one foot and five feet.
- M Subtract five cents from six cents.
- N 3 dimes plus 3 dimes equal **dimes**.
- 6 nickels minus 1 nickel equal ———
- ₱ 1 inch plus 1 inch equals inches.
- 2 pints minus 1 pint equal ~~~~
- 2 quarts plus 1 quart equal = quarts.
- 5 Add five bears and two bears.
- Subtract four bags from five bags.
- Add one child and one child.
- Subtract 2 squirrels from 6 squirrels.

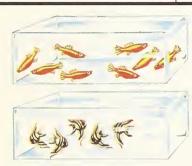


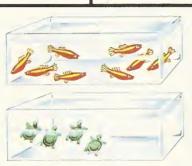


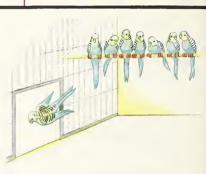


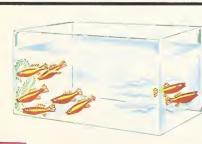




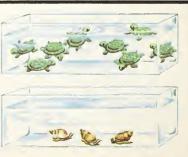












How many rabbits are eating?

How many rabbits are running to eat?

Then how many rabbits will be eating?

7 rabbits+1 rabbit=----

7+1=

3 dogs+5 dogs=-----

3+5=

Some turtles were in a pond.

How many turtles were in the pond?

How many turtles are going away from the pond?

Then how many turtles will be in the pond?

8 turtles – 6 turtles = ———

8-6=

8 birds-2 birds=----

8-2=

How many more mice are there than birds? Subtract as many mice as there are birds.

8 mice-4 mice=----

8-4=

8 birds – 3 birds = ----

8-3=

A 5+3=**■**

■ 1+7=**■** ■ 8-3=**■**

B 4+4==== C 2+6==== F 8-5= J 8-6= G 8-1= K 8-4=

D 6+2=

н 8-7=

8-2=

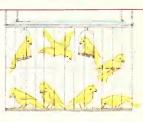
















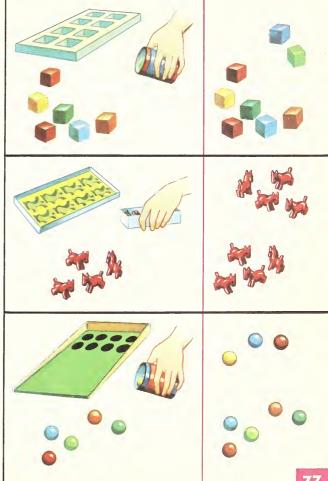
Don needs how many blocks for the box?
He needs how many more blocks?
Don will have 6 blocks plus
more blocks.

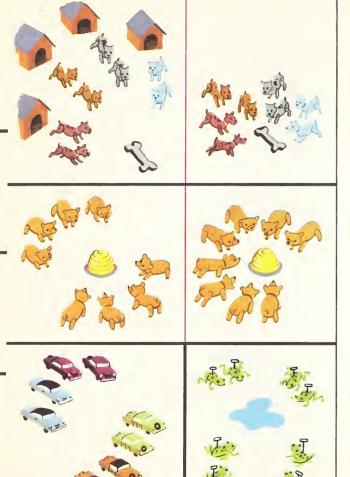
You can subtract the 6 blocks he has from 8 blocks.

8 blocks
$$-6$$
 blocks $=$ blocks
8= $6+$ 8- $6=$

Tom needs how many horses for the box?
He needs how many more horses?
Tom will have 4 horses plus ■ more horses.
You can subtract the 4 horses he has from 8 horses.

Billy needs how many balls in all?
He needs how many more balls?
He will have 5 balls plus ■ more balls.
Subtract the 5 balls he has from 8 balls.
8 balls−5 balls=■ balls
8−5+■ 8−5=■





The toy dogs are going in groups to eat. How many groups of toy dogs are there? How many dogs are in each group? How many dogs will be eating? 4 groups of 2 dogs each equal dogs.

4 twos=

The toy bears are going in groups to eat. How many groups of bears are there? How many bears are in each group? How many bears will be eating? 2 groups of 4 bears each equal bears. 2 fours

How many groups of toy cars are there? How many cars are in each group? 2 groups of 4 cars each equal ≡ cars. 2 fours=≡

How many groups of frogs are at the pond?
How many frogs are in each group?
4 groups of 2 frogs each equal ■ frogs.
4 twos=■

How many toy cars are going away? The cars are going away in groups. How many cars are in each group? How many groups of cars are there? 8 cars equal groups of 2 cars each. 8= twos How many toy dogs are going to the houses? The dogs are going in groups. How many dogs are in each group? How many groups of dogs are there? 8 dogs equal groups of 4 dogs each. 8= fours How many bears are going away?

They are going away in groups of \equiv each. 8 bears equal \equiv groups of 2 bears each.

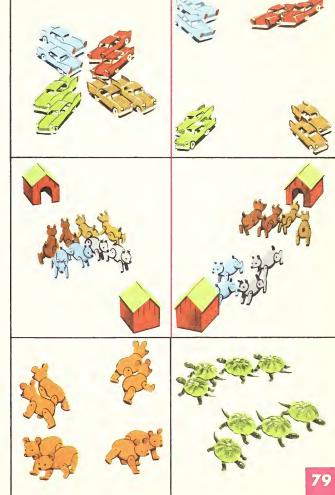
How many turtles are going away?

They are going away in groups of ■ each.

8 turtles equal
groups of 4 turtles each.

8= fours

8= twos



Each boy is buying the same number of toy cars at the store.

How many boys are at the store?
How many groups of cars will there be?
How many cars are there for each boy?
How many cars will there be in each group?
8 cars equal 4 groups of ■ cars each.

The same number of dolls is to be put in each wagon.

How many wagons are there?

How many groups of dolls will there be?

How many dolls are there for each wagon?

How many dolls will there be in each group?

8 dolls equal 2 groups of dolls each.

8=2 groups of each 8=2 ----



8=4 groups of each



8=4 -----









Carol will put the same number of dolls in each bed.

How many groups of dolls will there be? How many dolls will be in each group? 6 dolls equal 3 groups of dolls each.

Billy will put the same number of blocks in each box.

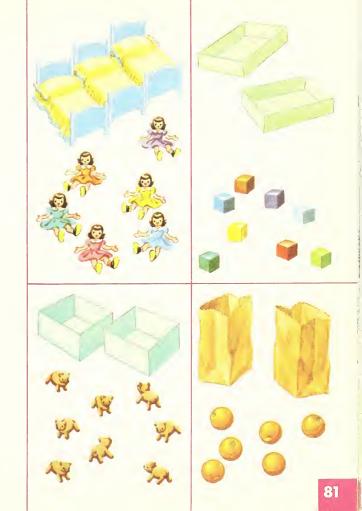
How many groups of blocks will there be? How many blocks will be in each group? 8 blocks equal 2 groups of blocks each.

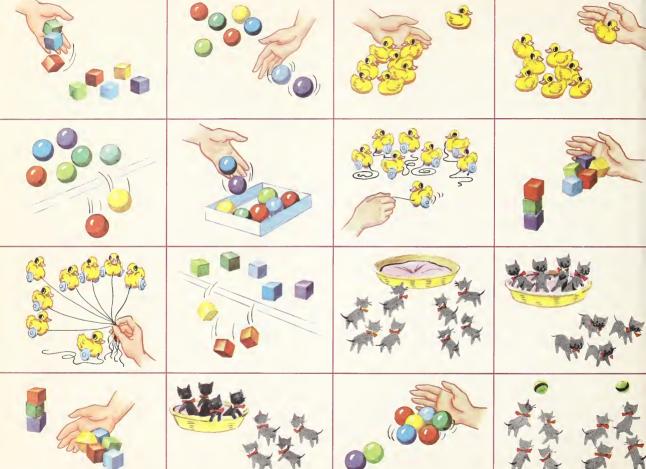
Nancy will put the same number of toy bears in each box.

How many groups of bears will there be? How many bears will be in each group? 8 bears equal 2 groups of ■ bears each.

Don will put the same number of oranges in each bag.

How many groups of oranges will there be? How many oranges will be in each group? 6 oranges equal 2 groups of ■ oranges.



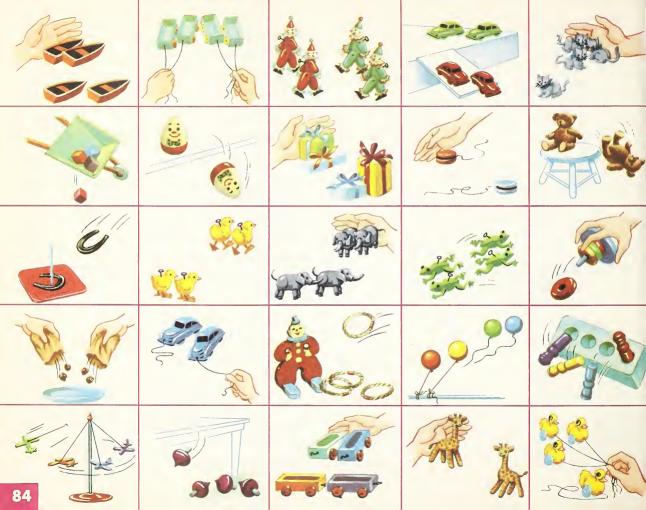


- $^{A}1+7=8$
- 7+1=8
- c 2+6=8
- 6+2=8
- 3+5=8
- 5+3=8
- 64+4=8

- 8-7=1
- 8-6=2
- 18-5=3
- κ 8-4=4
- 48-3=5
- M = 8 2 = 6
- N 8-1=7
- \circ 4 twos=8
- \triangleright 2 fours = 8
- \circ 8=4 twos
- \approx 8=2 fours
- A 3+4=
- B 8-6=
- c 6+2=
- D 7-4=
- E 4+1=
- F 8-2=
- G 7-1=
- H 3+5=
- 1+5=

- **J** 1+7=
- K 2-1=
- L 6−3=
- M 3+2=
- N 8 3 =
- 8-7=
- P 5−4=
- $\mathbf{Q} \ 1 + 2 = \mathbf{I}$
- R 4+4=

- Are 10 inches shorter than 1 foot?
- Are 8 pints equal to 4 quarts?
- Three quarts equal pints.
- □ 1 dime= nickels
- 1 dime= cents
- 1 nickel = cents
- Add 5 cents and 3 cents.
- 4 mice plus 4 mice equal mice.
- 3 dimes plus 5 dimes equal dimes.
- 8 nickels minus 4 nickels equal ————
- Subtract seven frogs from eight frogs.
- 2 horses plus 6 horses equal morses.
- M Eight blocks minus two blocks equal -----
- N 1 child plus 2 children equals -----
- 5 beds plus 3 beds equal beds.
- Eight bags minus five bags equal ~~~~
- Add 2 snowmen and 6 snowmen.
- Subtract one boat from eight boats.
- Subtract 3 ducks from 8 ducks.
- 7 pigs minus 1 pig equal pigs.
- Add 1 kitten and 7 kittens.
- y 3 pictures plus 5 pictures equal



The toy bears are going to play.

How many groups of bears are there?

How many bears are in each group?

How many bears will be playing?

2 groups of 2 bears each equal bears.

2 twos=

How many toy cows are there?

The toy cows are going away in groups.

How many cows are in each group?

How many groups of cows are there?

4 cows equal groups of 2 cows each.

4=== twos

Each boy is to have the same number of toy cows.

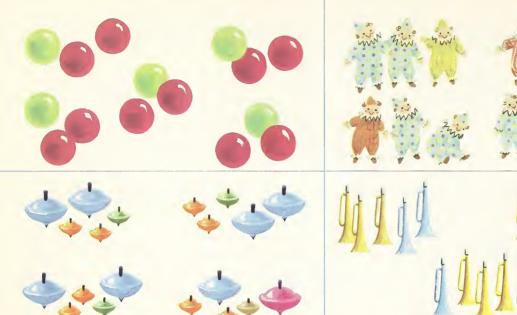
How many toy cows are there?
How many groups of cows will there be?
How many cows will there be in each group?
4 cows equal 2 groups of ■ cows each.

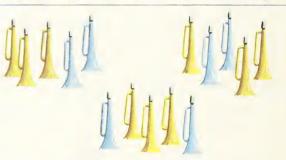
2 toy cows+2 toy cows= \blacksquare toy cows $2+2=\blacksquare$

4 toy cows -2 toy cows = toy cows 4-2=









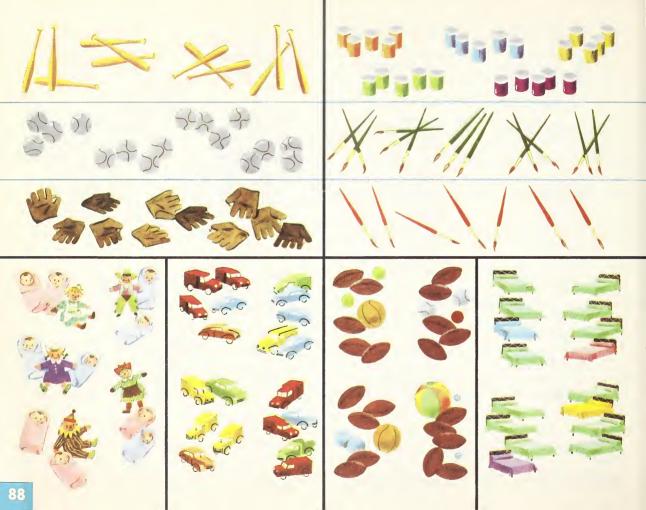
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ceres corre corre



Don had 6 blocks on the table.

He put 2 more blocks on the table.

Then he had blocks on the table.

Billy had 5 little toy wagons.

He took 3 of the wagons away.

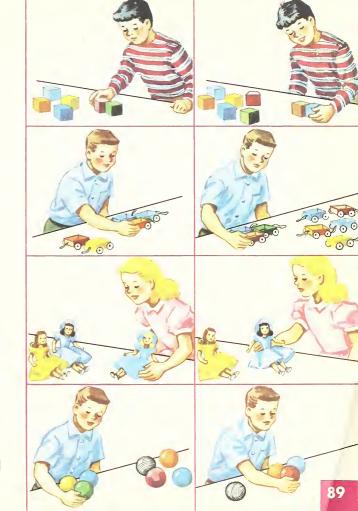
Then he had
little toy wagons left.

Carol had 2 dolls on the table. She put 1 more doll on the table. Then Carol had \blacksquare dolls on the table.

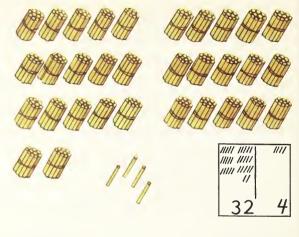
There were 4 balls on the table.

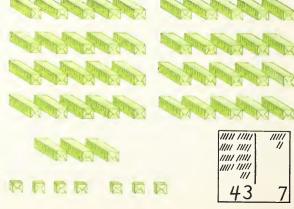
Billy took 3 of the balls away.

How many balls were left on the table?

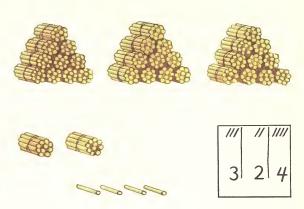


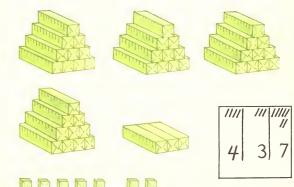


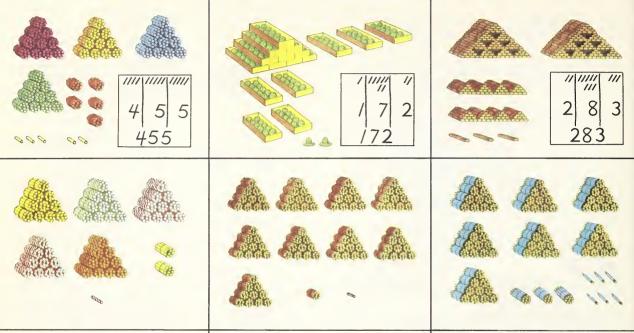


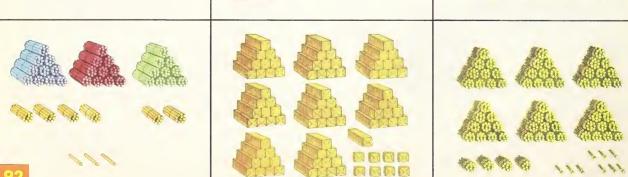


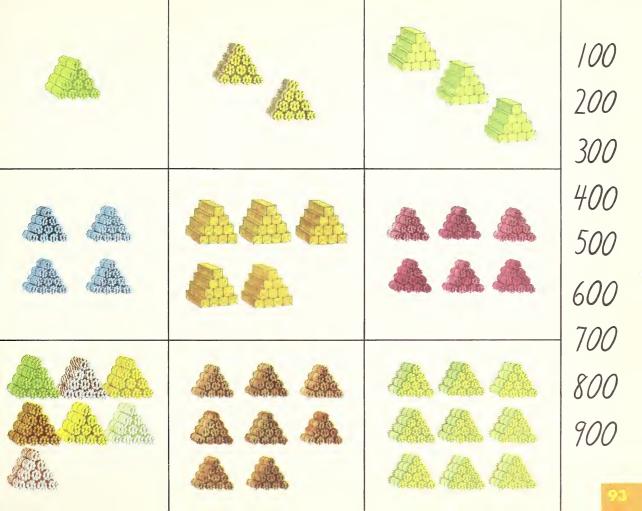


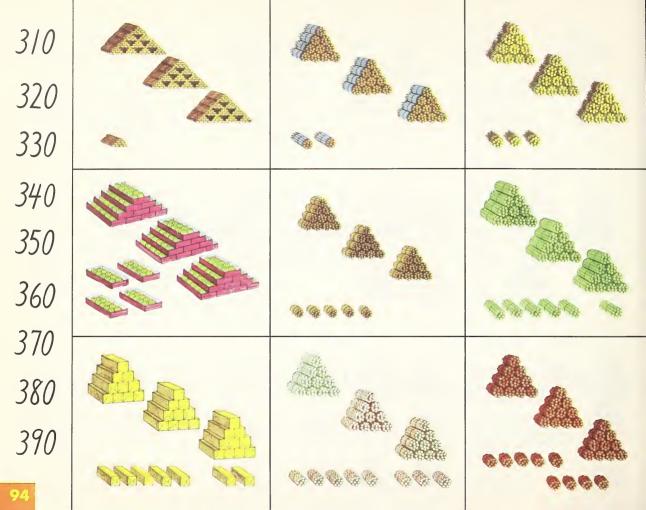


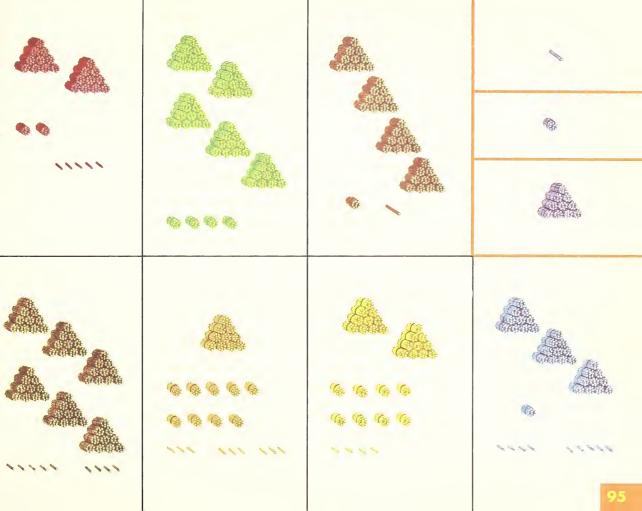


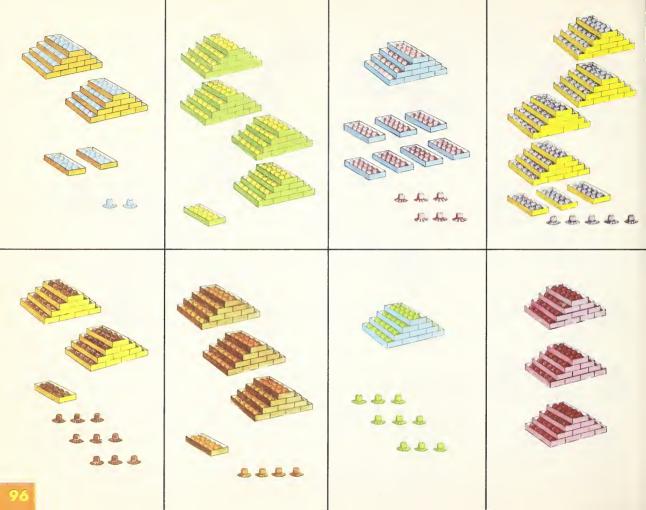












How much will the car cost?

Don has

pennies on the table.

Don needs how many more pennies?

Carol has some pennies in groups.

She has pennies in each group.

How many groups of pennies has she?

How many pennies has she in all?

Each cookie will cost 2 cents.

Billy will put the money into groups of 2 cents each.

How many groups of money will he have?

Tom has some dimes and pennies.

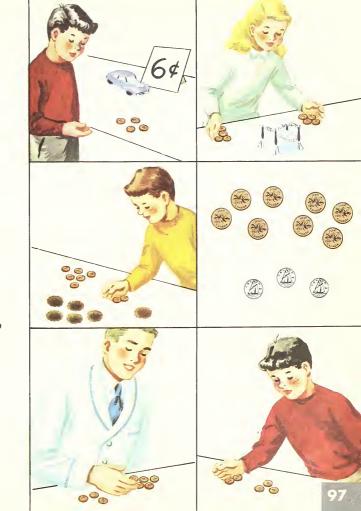
He has

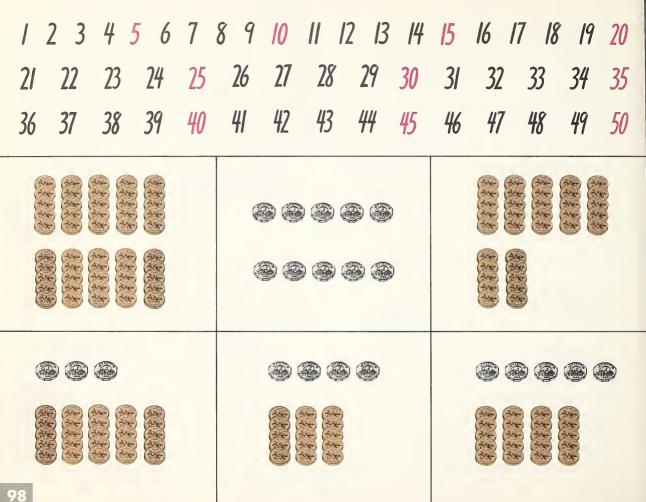
more pennies than dimes.

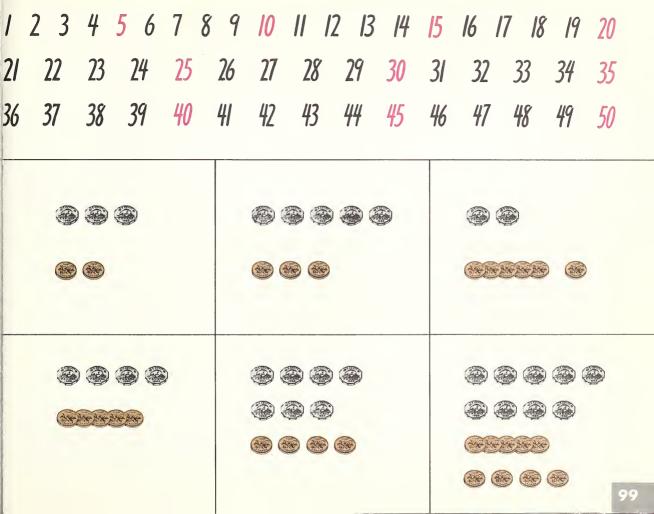
Do you subtract 3 pennies from 8 pennies?

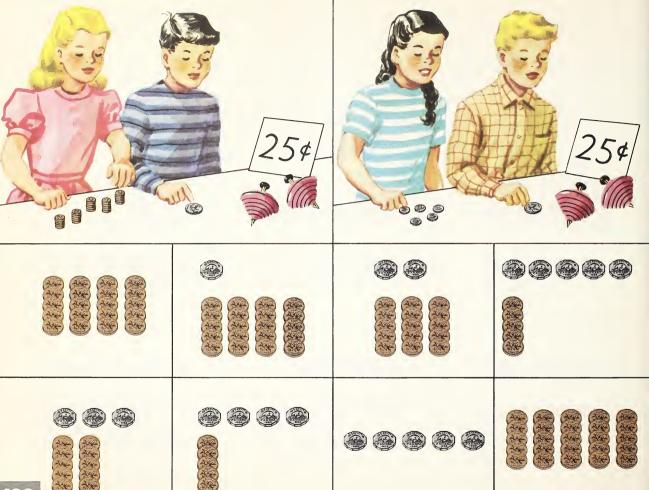
The man has ≡ cents in all. He is taking ≡ cents away. How many cents will be left?

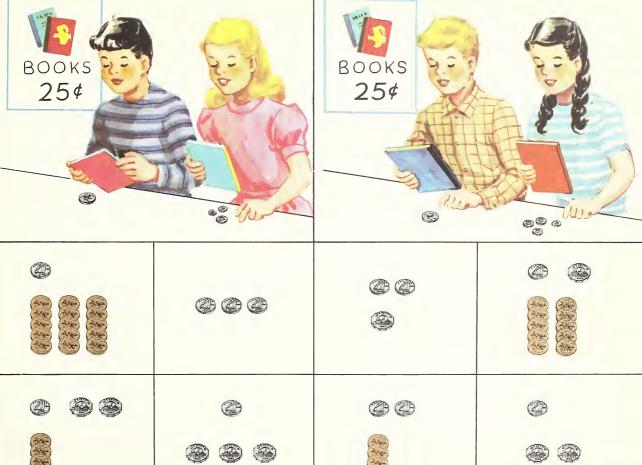
Don had 3 cents on the table. He put 2 more cents on the table. Then he had \equiv cents on the table.

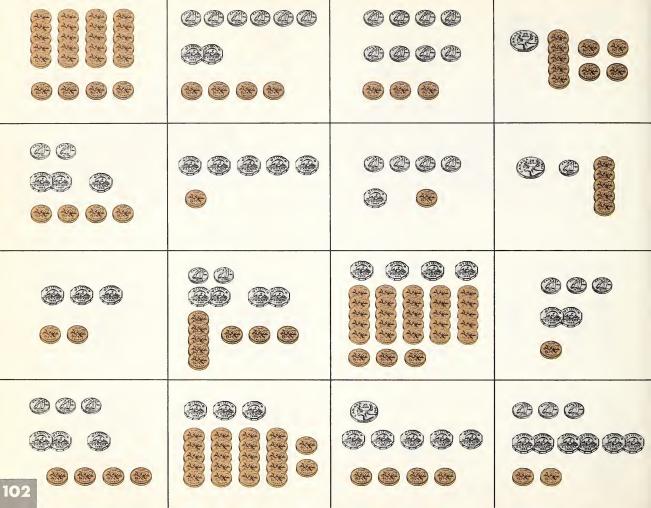




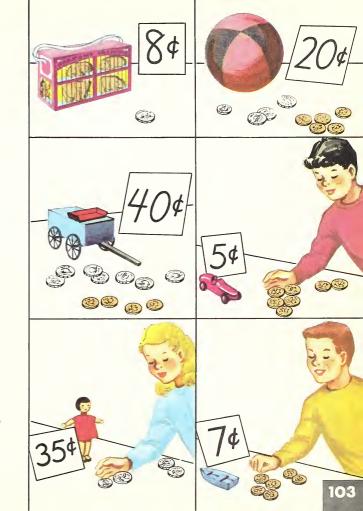




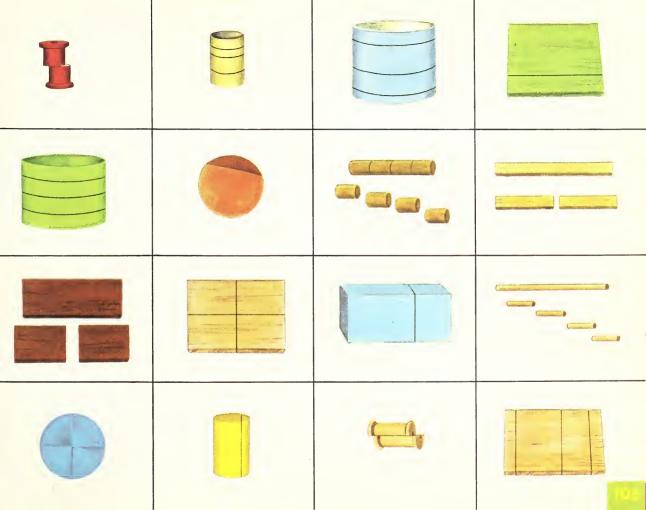


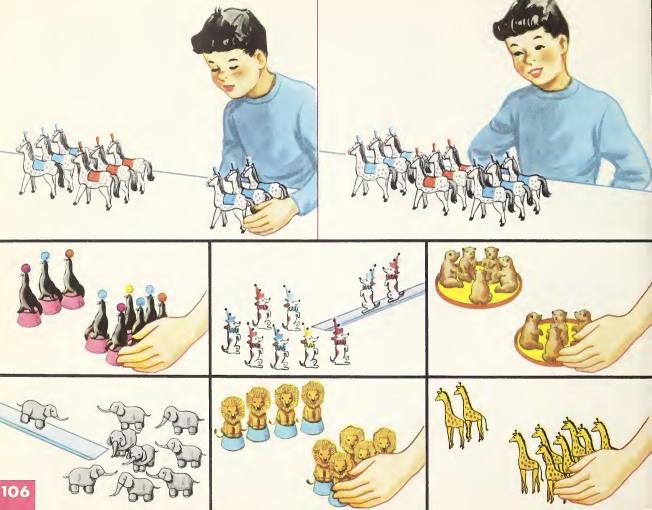


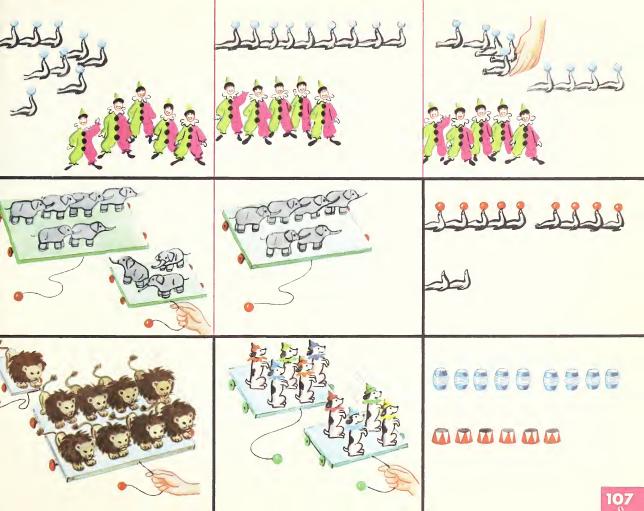
- A How much more money is needed to buy the cookies?
- B Is there enough money to buy the ball?
- c Will the dime and 2 nickels be enough to buy the ball?
- Will the 3 nickels and 5 pennies be enough to buy the ball?
- Is there enough money to buy the wagon?
- F Don has how much more money than the toy car costs?
- Will Carol need the 2 nickels to buy the doll?
- How much more money will Billy need to buy the boat?
- How much money is on the table with the ball?
- J How much money is on the table with the wagon?
- Which table has more money, the one with the ball or the one with the wagon?
- Do Don and Billy have the same number of pennies?

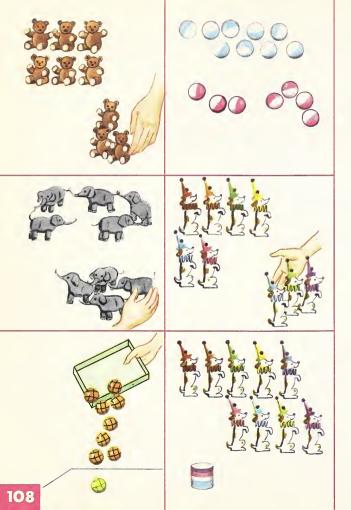












Nancy had 6 toy bears on the table. She put 3 more toy bears on the table. Then there were toy bears on the table. 6 hears + 3 hears = ~~~~ 6+3=

There are more blue balls than red balls. 9 blue balls = 7 blue balls = 9-7=

Ellen put 5 toy elephants on the table. Nancy put 4 toy elephants on the table. How many toy elephants are on the table? 5 elephants+4 elephants=----- 5+4=

Don had 9 toy dogs. He took 3 of the toy dogs away. How many toy dogs were left? 9 dogs - 3 dogs = ----

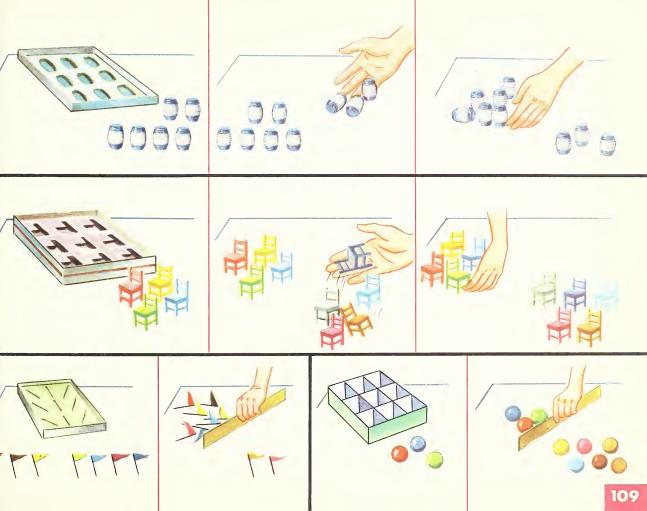
9 dogs - 1 dog =

1+8= 1 ball + 8 balls = ----

9-3=

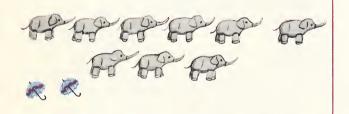
How many more toy dogs are there than tov stands?

Subtract as many dogs as there are stands. 9-1=











Don needs more dogs for the box.

9=6+

9-6=

Billy needs how many more toy elephants to have enough for the toy stands?

9 elephants=5 elephants+ ≡ elephants

Billy needs how many more toy umbrellas to have enough for the toy elephants?

9 umbrellas=2 umbrellas+≡ umbrellas

Tom needs more ball for the clowns.

9 balls=8 balls+≡ ball

9=8+

9 balls-8 balls-

9-8=

A 7+2=

G1+8=

M9-5=

B 6+3=■

H 9-2=■

N 3+6=

c 9=4+

9=5+

3+0=

J-4⊤<u></u>

1 =

o 2+7==

9-8=

J 9−1=

P 9=6+**■**

9-7=

× 9=2+■

o 9=3+

F 5+4=

8+1=

R 4+5=

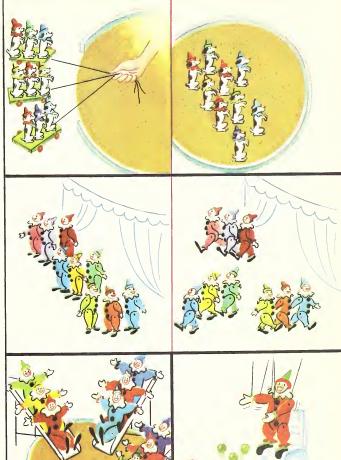
How many groups of toy dogs are there? How many toy dogs are in each group? How many toy dogs are there in all? 3 groups of 3 dogs each = ■ dogs

How many clowns are standing? Now they are going away in groups of How many groups are there? 9 clowns= groups of 3 clowns each

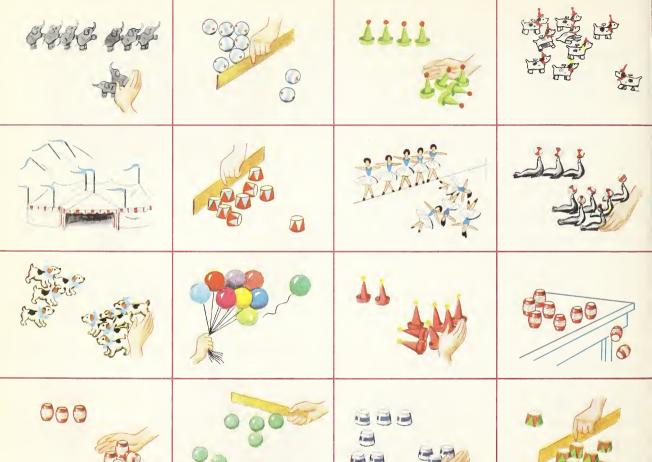
How many groups of clowns are playing? How many clowns are in each group? How many clowns are playing? 3 groups of 3 clowns each=

How many balls are there in all? They are in groups of balls each. How many groups of balls are there? 9 balls= groups of 3 balls each

- A 3 threes= € 6= twos B 9= ■ threes € 6=2 ----c 9=3 ----G 2 twos=
- H 8= fours 4 twos=







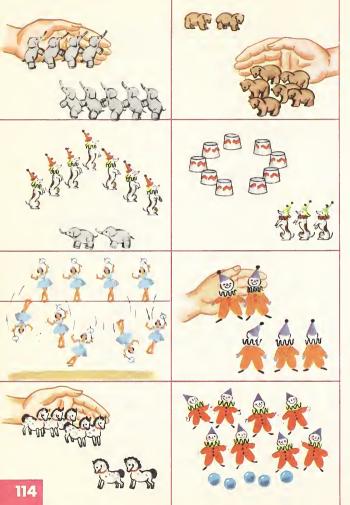
- A 1+8=9
- 8+1=9
- $c_{2+7=9}$
- D7+2=9
- 3+6=9
- 6+3=9
- 64+5=9
- H 5+4=9
- - \bigcirc 3 threes=9
 - 9=3 threes
- A 4 twos=
- \mathbf{B} 6= \mathbf{I} threes
- c 9=3 ----
- \triangleright 8= \blacksquare fours
- E 6=2 ----
- F 8=4 -----
- G 3 threes=
- H 2 fours=
- 1 2 threes=
- J 9=

 threes

- 9-8=1
- $\mathbf{J} 9-7=2$
- K9-6=3
- 9-5=4
- M9-4=5
- N 9 3 = 6
- 9-2=7
- 9-1=8

- $K 7 + 2 = \blacksquare$
- L 1+3=■
- M9-4=
- N7-2=
- o 9=6+
- P 4+5=■
- 9-2=
- $R 4 = 2 + \blacksquare$
- 9=1+
- **T** 9−5=

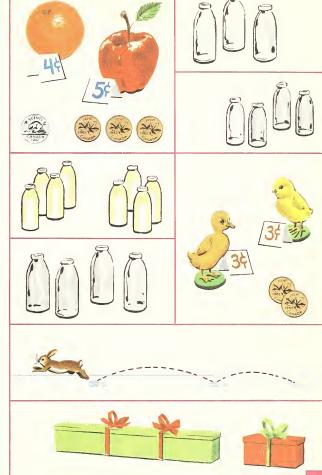
- Add six cents and three cents.
- Subtract 7 quarts from 9 quarts.
- 1 quarter = mickels
- 2 nickels=1 -----
- 1 dime= cents
- 1 quarter= cents
- □ 1 quarter=2 dimes and ~~~~
- 4 pints= quarts
- 1 foot is shorter than inches.
- Nine toy houses two toy houses = ----
- 3 frogs plus 6 frogs = frogs
- One child+eight children=
- Add two horses and six horses.
- Subtract four mice from eight mice.
- 4 quarters − 1 quarter = ~~~
- Seven men plus two men = men
- Add 5 tov stands and 4 tov stands.
- Nine sleds minus three sleds=
- Eight clowns—two clowns= clowns
- Six squirrels+two squirrels=
- W Nine turtles—one turtle=
- 2 umbrellas+2 umbrellas=----



- A How many elephants are there in all?

 5 elephants+4 elephants=-----
- B How many bears will be left? 8 bears – 6 bears = bears
- c How many more dogs are there than elephants?7 dogs−2 dogs=■ dogs
- b How many more dogs are needed for the stands?
 9 dogs 3 dogs = _____
- E How many dolls are left standing?9 dolls−5 dolls= dolls
- F How many clowns are there in all?3 clowns+2 clowns=≡ clowns
- G How many horses are there in all? 2 horses+5 horses=■ horses
- H How many more clowns are there than blue balls?8 clowns−5 clowns= clowns

- A The apple costs how much more than the orange?
- B Nancy has how much more money than she needs to buy the apple?
- c Nancy has how much more money than she needs to buy the orange?
- b How much money in all do the apple and the orange cost?
- E How many pints of milk can Carol put into the 3 quart bottles?
- F How many quarts of milk can Carol put into the 4 pint bottles?
- G How many quarts of milk can Don put into the 8 pint bottles?
- How many pints of milk can Don put into the 4 quart bottles?
- The chicken and the duck cost ≡ ¢ in all.
- J Has Nancy enough money to buy the duck?
- L 2 feet+3 feet=■ feet
- M Can Don put 3 red boxes as long as this one into the blue box?

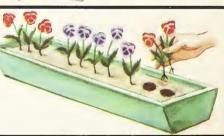








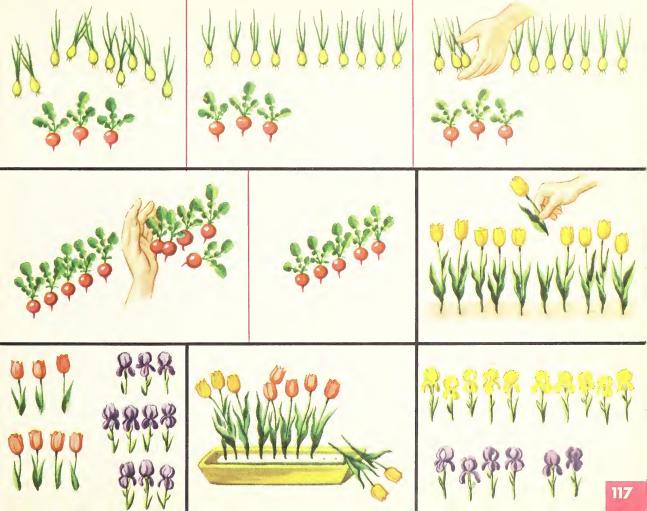














The man has 9 plants in the garden.

He has 1 more plant for the garden.

Then he will have ■ plants in the garden.

9 plants+1 plant=■ plants 9+1=■

How many more white flowers are there than blue flowers?

10 white flowers – 9 white flowers = -----

There were 2 plants on the table.

8 more plants are being put on the table.

Then there will be plants on the table.

2 plants + 8 plants = 2+8=

There were 10 yellow flowers in the garden.

Carol is taking away

yellow flowers.

Then

yellow flowers will be left.

10 flowers −4 flowers = 10−4=

10−4=

Ellen has 5 plants, and Carol has 5 plants.

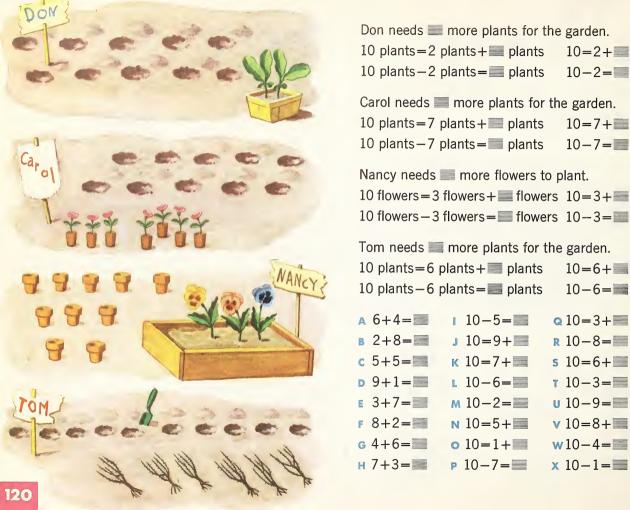
How many plants do the girls have in all?

5 plants+5 plants=

5+5=

How many more red flowers are there than white flowers?





How many groups of bees are flying to the flower? How many bees are in each group? Now how many bees are on the flower? 5 twos= 5 groups of 2 bees=----How many groups of birds are flying to the garden?

How many birds are in each group?

Now how many birds are in the garden? 2 groups of 5 birds=——— 2 fives=

How many groups of bees are flying

How many bees are in each group?

to the flower?

How many bees will be on the flower? 2 groups of 5 bees= 2 fives=

How many groups of birds are flying to the garden? How many birds are in each group?

How many birds will be in the garden?

5 groups of 2 birds= 5 twos=



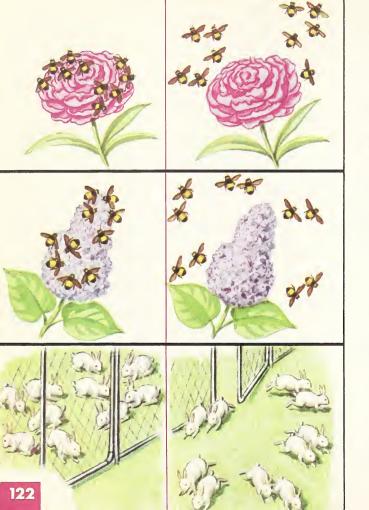












■ bees are on the red flower.
Now they are flying away in groups of ■.
How many groups of bees are flying away?
10 bees = ■ groups of 5 bees
10 = ■ fives

■ bees are on the blue flower.
Now they are flying away in groups of ■.
How many groups of bees are flying away?
10 bees=■ groups of 2 bees
10=■ twos

How many rabbits are in the yard?

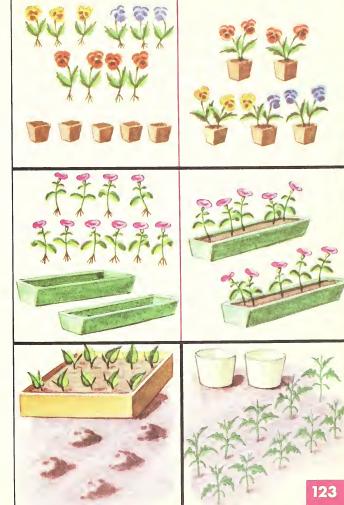
Now they are running away in groups of ...

How many groups are running away?

10 rabbits ... groups of 2 rabbits

10 ... twos

Don is going to put the same number of flowers in each of 5 little boxes. How many flowers will be in each box? 10 flowers = 5 groups of ■ flowers 10=5 groups of ■ 10=5 -----Carol is going to put the same number of flowers in each of 2 long boxes. How many flowers will be in each box? 10 flowers = 2 groups of ■ flowers 10=2 groups of ■ 10=2 -----10 plants=5 groups of **■** plants 10=5 groups of 10=5 ----10 plants=2 groups of plants 10=2 -----10=2 groups of ■ G 9=3 ----A 10=5 ----B 6=2 ----H 8=2 ---c 4=2 ----5 twos= D 10=2 ----J 3 threes= E 8=4 ----- ∠ fours=■ F 6=3 -----2 fives=





- A 1+9=10
- 9+1=10
- c 2+8=10
- 8+2=10
- 3+7=10
- 7+3=10
- 64+6=10
- 710 10
- 6+4=10
- 5+5=10
- 5 twos = 10
- $\mathbf{7}$ 2 fives = 10
- 0.10=5 twos
- \vee 10=2 fives
- A 10=4+
- B 1+9=
- C 4-2=
- D 9-6=
- E 8=1+
- F 6+4=
- G 7+3=

- H 8=3+
- 4+6=

10 - 1 = 9

10 - 3 = 7

k = 10 - 2 = 8

M 10-4=6

N 10-5=5

010-6=4

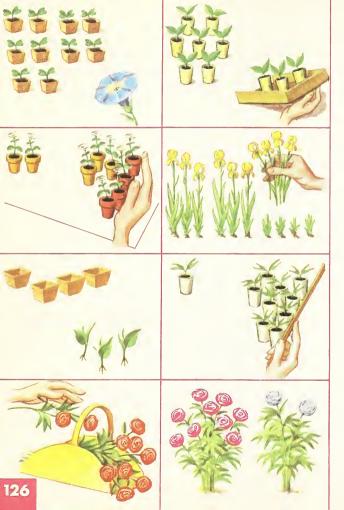
0.10-8=2

10 - 7 = 3

10 - 9 = 1

- 1 710-
- 3+7=
- ĸ 10-5=
- L 10-3=
- M 3+6=■
- N 7+1=

- Ten pints= quarts
- 4 quarts= pints
- □ 1 foot= inches
- 1 quarter = nickels
- 1 dime===¢
- 1 quarter= cents
- □ 1 dime= nickels
- 1 quarter=1 dime and 3 -----
- Add eight feet and two feet.
- Subtract seven mice from ten mice.
- Nine stands—four stands== stands
- Ten clowns—nine clowns—
- M One inch+nine inches=
- Nine quarters minus three quarters=-----
- Two pigs plus seven pigs = pigs
- Eight cows plus one cow = cows
- Ten beds minus nine beds=-----
- Add eight frogs and two frogs.
- Subtract six sticks from nine sticks.
- Two turtles+eight turtles=~~~~
- Three sticks+seven sticks=



- A Carol has
 more plants than flowers.

 10 plants−1 plant= plants
- B 3 plants are being put with ≡ plants.
 How many plants will there be in all?
 7 plants+3 plants=≡ plants
- How many white flowers are there in all?
 2 white flowers + 7 white flowers =
- How many yellow flowers will be left?
 10 yellow flowers 4 yellow flowers =
- Don needs ≡ more plant for the 4 boxes.

 4 plants=3 plants+≡ plant

 4 plants−3 plants=

 4-3=

 4-3=
- 6 8 red flowers+2 red flowers=-----
- How many more red flowers are there than white flowers?

 9 red flowers = 2 red flowers = 2

- A Tom will have flowers in the box.

 7 flowers+2 flowers=
- Billy needs more blue flowers.

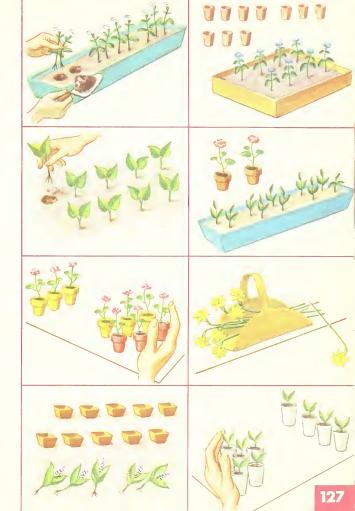
 10 flowers=8 flowers+ flowers

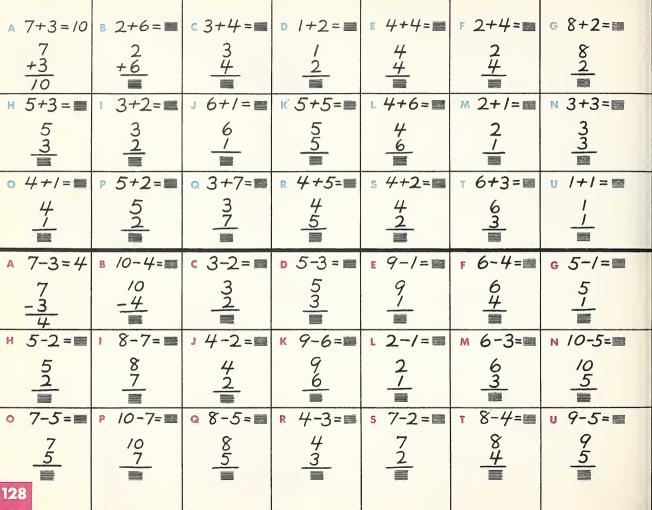
 10 flowers-8 flowers=
- C Don is planting 1 more plant.
 He will have plants in the garden.
 8 plants+1 plant=■ plants
- There are how many more plants in the box than red flowers?10 plants-2 plants= plants
- Carol will have ≡ red flowers in all.
 3 red flowers + 6 red flowers = ...
- How many yellow flowers will be left?
- G How many more white flowers are needed for the boxes?

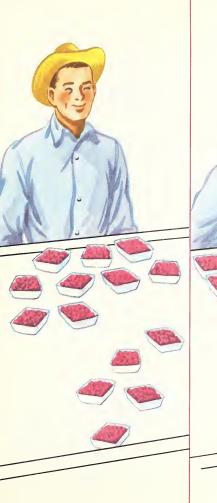
 10 flowers=5 flowers+ flowers

 10 flowers−5 flowers= flowers
- → Don will have

 ── plants on the table.

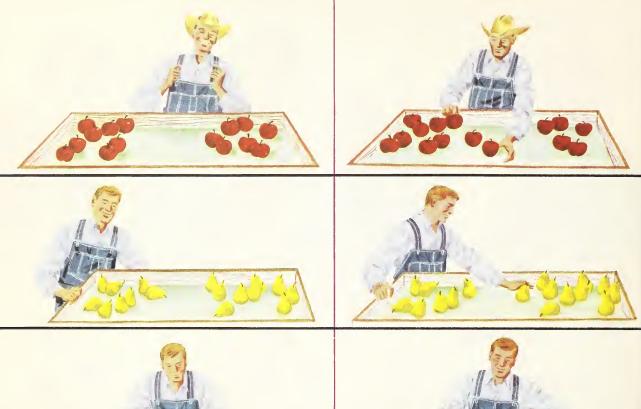


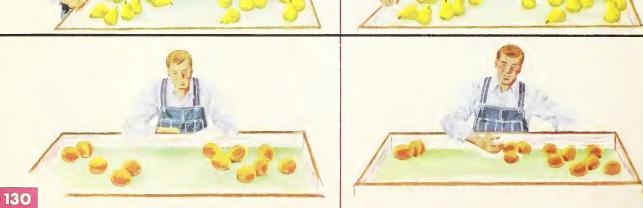


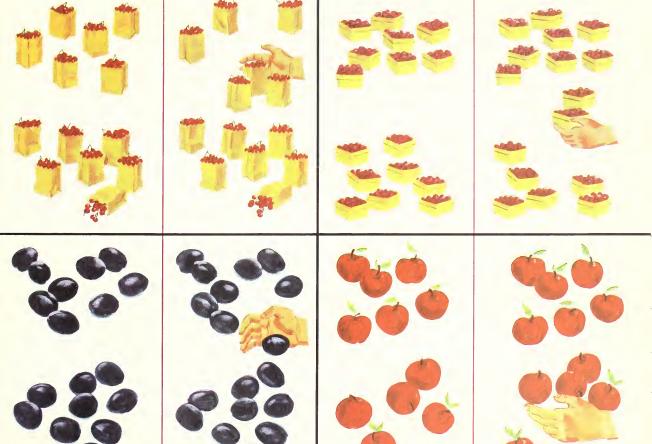


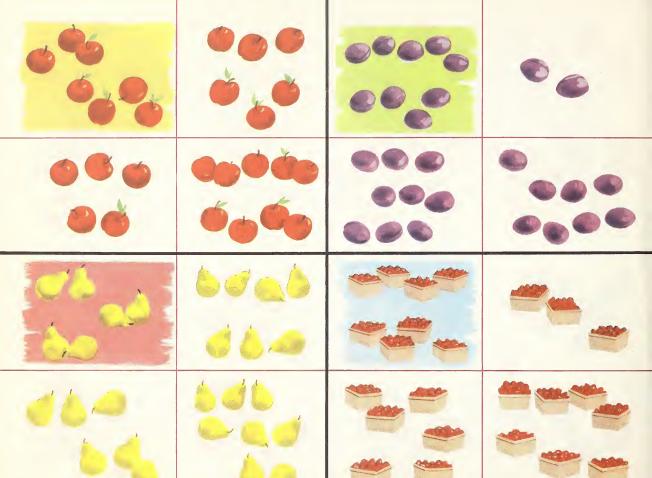










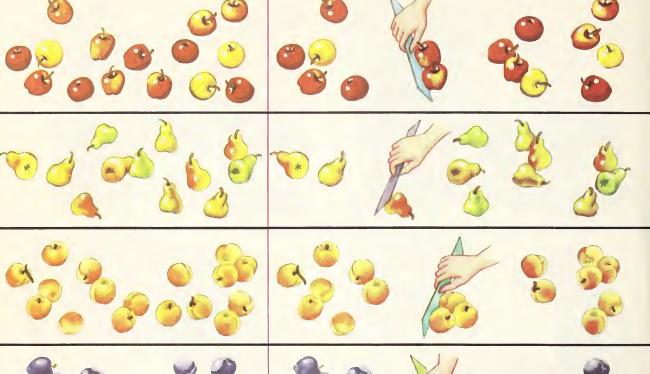


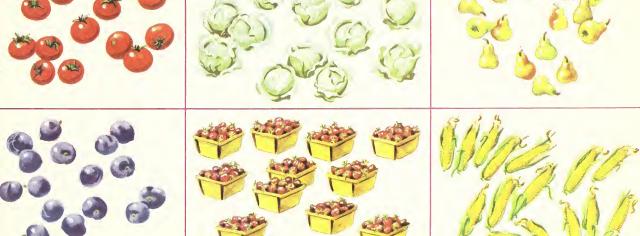


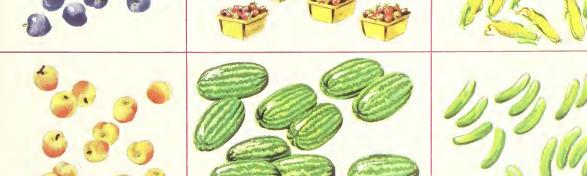


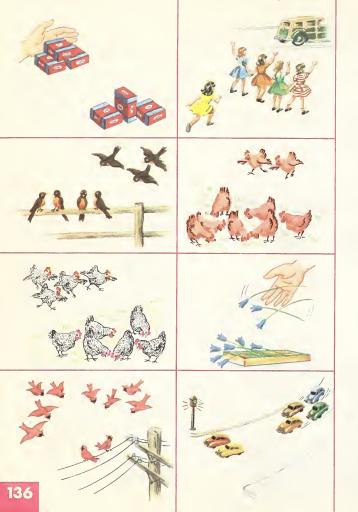












- A boxes+ boxes= boxes
- B girls+ girl= girls
- c ≡ birds+≡ birds=≡ birds
- □ red chickens + □ red chickens = -----
- F blue flowers+■ blue flowers=~~~~
- G ≡ red birds+≡ red birds=
- H = cars+ cars= cars

Add

4	
_	
۵	
6	
<u>U</u>	



- A How many more cookies are needed?
- B How many more bottles of milk are needed?
- C How many cookies will be left?
- How many orange cars will be left?
- E How many more dolls are needed?
- F How many blue cars will be left?

$$H 8-3=$$

$$\kappa 10-7=$$

Subtract

5 2	10 2	4 3	9 4	10 1	10 3
		5	-		







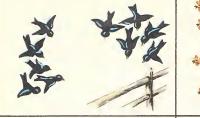












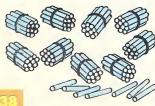


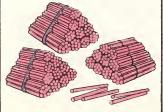












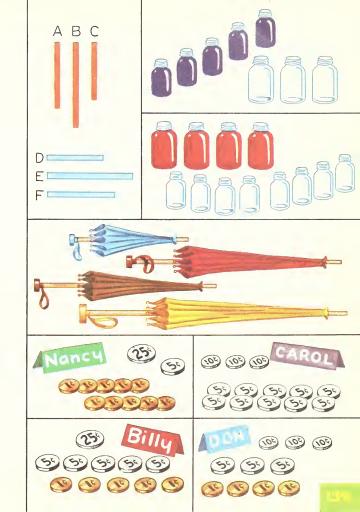
- groups of birds=ten birds
- 8 chickens= groups of chickens
- 6 birds= groups of birds
- groups of squirrels 8 squirrels
- Can you put 3 sticks with each group of 4 toys?

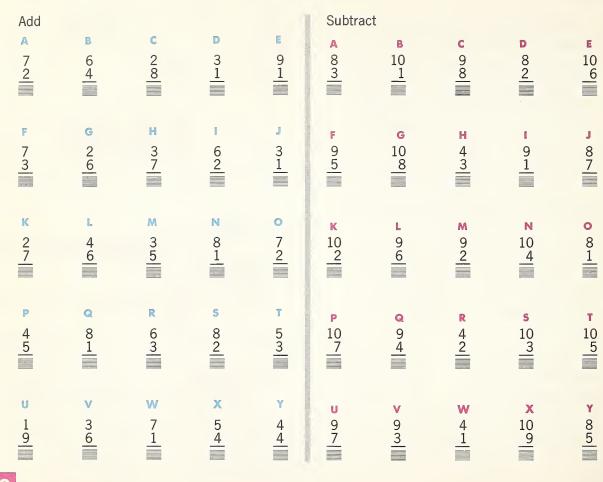
Are there enough sticks?

- F Are there 2 blue umbrellas in each group of 3 umbrellas?
- G Are there 2 little umbrellas in each group of 3 umbrellas?
- How many blue sticks are there?
- How many red sticks are there?
 - A 3 threes=
 - B 2 twos=
 - c 2 fives=
- 5 twos=■
- 4 twos=
- F 2 threes=
- 3 twos=
- H 2 fours=

- 8= fours
- J 6=3 -----
- к 10=5 ----
- 4= twos
- M 9=**■** threes
 N 8=4 -----
- 10= fives
- P 10=2 -----

- A Which red stick is just 1 inch long?
- B Which blue stick is just 1 inch long?
- c Are there enough quarts for the 5 pints?
- Are there enough pints for the 4 quarts?
- Which umbrella is just 4 inches long?
- Is the red umbrella shorter than or longer than 3 inches?
- G Is the blue umbrella longer than or shorter than 2 inches?
- H Is the brown umbrella longer than or shorter than 3 inches?
- Can Nancy buy a doll which costs 50¢?
- J Can Carol buy a toy which costs 75¢?
- K Can Billy buy a ball which costs 55¢?
- L Don has **■**¢. Carol has **■**¢.
- A 1 foot= ≡ inches
- B 4 quarts=\boxed{\overline{\textit{B}}} pints
- c Ten pints= quarts
- D 1 quarter=3 nickels and ~~~~
- Ten cents=one nickel and _____
- E 2 nickels = Cents





INSTRUCTIONS TO THE TEACHER AND CONCEPT CHART

Purpose and Scope of This Book

Numbers in Action is designed to help teachers develop a rich and interesting number program in Grade 2. Used throughout the year either with the Arithmetic Readiness Cards¹, Our Number Workshop 2², and the films The Meaning of Plus and Minus and The Number System³, or independently, it leads the way to a systematic development of number concepts by non-formal, concrete methods. A carefully planned sequence of pictures is used (1) to introduce each new concept in a natural setting at the child's level of interest and understanding, (2) to provide a psychologically sound way of bridging the gap between the use of concrete objects and abstract symbolism. A number program based on these principles was developed for Grade 1 in Numbers We See⁴. This program enabled the child to acquire the meaning of the spoken word before he was required to recognize the written symbol. Numbers in Action continues this program and introduces those actions which give meaning to symbols such as "+" and "-".

Problem solving is considered to be the primary objective of a modern arithmetic program. For this reason *Numbers in Action* introduces the following three phases of problem solving:

- 1. Recognizing the action: learning that some situations use a combining action and others a separating action, thereby leading to generalized concepts of addition, subtraction, multiplication, and division.
- Using symbols to express the situation: learning to represent addition and subtraction situations by using number symbols (4, 5, 6, 7, etc.) and action symbols (+, -).

3. Processing number symbols: using regrouping procedures and developing reasonable facility of response when using number symbols.

To insure that the child will achieve maximum success in problem solving, Numbers in Action develops five fundamental number ideas.

- Correspondence: relating one object to one object, one-to-ten, one-to-twelve, two-to-three, and others. (Pages devoted to this phase are indicated by blue blocks in the book.)
- Number relationships: developing the basic facts relating to those groups (of 10 or fewer) taught in Numbers We See; preparing for basic facts involving groups up to eighteen by regrouping by tens and ones. (Indicated by red.)
- Number system: grouping objects by tens and hundreds to represent numbers to 999 leading to an understanding of the written notation of our number system. (Indicated by orange.)
- Measurement: developing the concept of a standard unit; introducing the standard units inch. foot, quart, and pint. (Indicated by green.)
- Money: recognizing coins (cent, nickel, dime, quarter); counting money by tens, fives, and ones to fifty-four cents, and by tens and ones to ninety-nine cents; establishing the relationships among coins. (Indicated by gray.)

The basic number ideas are introduced by means of a sequence of pictures. These ideas can be made clear through group discussions and by a variety of manipulative activities based on the pictures. The picture sequences show all the actions which take place in the number situations generally introduced in Grade 2. Short picture sequences, and single pictures, have been woven into the program in order to develop the ability to imagine actions—actions which eventually are represented by symbols on the printed page. A complete discussion of the points made here, as well as many interesting ways to use this book, will be found in the Teacher's Notes beginning on page 145 of the Teacher's Edition.

¹ Artihmetic Readinest Cards Set 1: Grauping; Set 2: Number System, by Maurice L. Hartung, Henry Van Enene, and Helen Palient, Scatl, Faresman and Campany.
2 Our Number Warkshap 2, by Maurice L. Hartung, Henry Van Engen, and Catharine Mahaney.
Scatl, Faresman and Campany.

³ The Number System and The Meaning af Plus and Minus, each eleven minutes in full calar available fram Encyclapaedia Britannica Films Inc., Taronta, Ontaria, These films were praduced by Encyclapaedia Britannica Films Inc. in callabaration with the authors of Numbers in Action.

⁴ Numbers We See, by Maurice L. Hartung, Henry Van Engen, Anita Riess, Catharine Mahaney, and A. B. Evensan. W. J. Gage Limited.

Concept Chart

The following chart gives in brief form for each page the skills and concepts that are developed. The color band indicates for each page the area of content to which it belongs. An explanation of this color code is given on page 141. A detailed explanation of the objective for each page will be found in the directions for teaching the page. These directions begin on page 151 of the Teacher's Edition.

Page Concepts and Skills

- ond 4 12 13 14
 - Review of one-to-one correspondence os reodiness for counting Review of one-to-one, one-to-two, and two-to
 - one correspondence Review of the recognition of the groups 2, 3,
 - Review of the recognition of the even number groups 6, 8, and 10
 - Review of the recognition of the odd number groups 5, 7, and 9
 - Review of positional meaning of 1 to 10: recagnition of number symbols and words 1 to 10 Recognition of number symbols and number words 1 to 10 with emphasis on numerousness
 - Positional meaning of 1 to 10: emphosis on location by use of two directions Identification of cent, nickel, and dime:
 - counting omounts of money to total of 10 cents The 5 group; completed oction for the combin-
 - ing of two groups The 5 group; imagined action for the combin-
 - ing of two groups The 5 group; symbolism for the combining of

 - The 5 group; completed action for separating 15 into two groups; remoinder ideo only
 - The 5 group; imagined action for separating 16 into two groups; remoinder ideo only
 - The 5 group; symbolism for separating into two 17 groups; remoinder ideo only
 - The 5 group; pictorial problem situations for 18 combining and separating actions
 - The 5 group; pictorial problem situations for 19 combining and separating actions; symbolism 20
 - The 3 group; completed oction for the combining of ond separating into two groups

Page Concepts and Skills

- The 3 group: imagined action for the combining of 21 ond separating into two groups; symbolism
- The 7 group; completed oction for the combining of two groups
- The 7 group; imagined action for the combin-23 ing of two groups
- The 7 group; symbolism for the combining of 24 two groups
- The 7 group; completed oction for separating 25 into two groups; remoinder ideo only
- The 7 group: imagined action for separating 26 into two groups; remoinder ideo only
- The 7 group; symbolism for separating into two 27 groups; remoinder ideo only
- The 3, 5, and 7 groups: pictorial problem sit-28 uotions for combining and separating actions
- The 3, 5, and 7 groups: pictorial problem sit-29 uotions and symbolism; combining and separating
- Introduction of the plus sign: further symbol-30 ism for 3, 5, and 7 groups; combining oction
- Introduction of the minus sign; further symbol-31 ism for 3, 5, and 7 groups; separating action
- The 3, 5, and 7 groups; pictorial problem sit-32 uotions for combining and separating actions
- The 3, 5, and 7 groups; symbolism for and 33 proctice with combining and separating actions
- The 3, 5, and 7 groups; pictorial problem sit-34 uotions: symbolism for combining and separating Number system; completed oction for grouping
- by tens and ones Number system; symbolism with tollies for
- groups of tens and ones
- Number system; symbolism with numbers for groups of tens and ones
- Number system; symbolism with numbers for the decodes 10 to 90
- Number system; symbolism for the numbers within the second decode 11 to 19
- Number system: symbolism for the numbers within the decodes 20 to 99
- Number system; changed symbolism for groups increosed by one ond by o group of ten
- Number system; changed symbolism for groups decreosed by one and by a group of ten Money: relation of money system to number
- system; counting by tens and ones to 99 cents Money: counting cents, nickels, dimes by tens
- and ones to 99 cents

Page Concepts and Skills

- Money; pictorial problem situations involving cents, nickels, ond dimes
- The 6 group; completed oction for the combin-46 ing of two groups
- The 6 group; imagined action for the combin-47 ing of two groups
- The 6 group; symbolism for the combining of 48 two groups
- The 6 group: completed action for separat -49 ing into two groups; remoinder ideo only
- The 6 group; imagined action for separating 50 into two groups; remoinder ideo only
- The 6 group; symbolism for separating into two groups; remoinder ideo only
- The 6 group; completed and imagined action 52 for the combining of equal groups
- The 6 group; oction for separating into equal 53 groups; finding how mony groups
- The 6 group; symbolism for combining equal 54 groups and separating into equal groups
- Introduction of the equals sign: further sym-55 bolism for the 5, 6, and 7 groups
- The 3, 5, 6, and 7 groups: pictorial problem 56 situotions
- The 3, 5, 6, and 7 groups; complete table of bosic focts in obstroct form: practice
- Measurement; situations requiring a standard Meosurement; concept of the inch: use of 1-inch
- to 4-inch models; comporison by measurement Meosurement; concept of the foot; use of the
 - foot ruler morked in inches Measurement; establishing the need for standard
- units to meosure conocity Meosurement; concept of quort and pint; relo-
- tionship between quort and pint Comporing two groups by subtraction: completed
- action to show why subtraction is used
- Comporing two groups by subtraction: imagined 64 action to show why subtraction is used Comporing two groups by subtraction: symbolism:
- 65 3, 5, 6, and 7 groups Comporing two groups by subtraction: pictorial
- 66 problem situations; further symbolism
- Finding how mony more ore needed; completed 67 oction to show why subtroction is used
- Finding how mony more ore needed: impained 68 oction to show why subtroction is used

age	Concepts and Skills	Page	Concepts and Skills	Page	Concepts and Skills
69	Finding how many more are needed; imagined ac- tion to show why subtraction is used; symbolism	93	Number system; symbolism with numbers for the hundreds 100 to 900	117	The 10 group; completed and imagined action fo separating into and comparison of two groups
70	Finding how many more are needed; further symbolism; 3, 5, 6, and 7 groups	94	Number system; symbolism with numbers for the decades within the hundreds	118	The 10 group; symbolism for the combining, sep- arating into, and comparison of two groups
71	The 3, 5, 6, and 7 groups; pictorial problem situations for combining and separating	95	Number system; changed symbolism for groups in- creased by one, a group of 10, and a group of 100	119	The 10 group; completed action for finding how many more are needed
72	Review of basic facts for the 3, 5, 6, and 7 groups; symbolism	96	Number system; changed symbolism far groups de- creased by one, a group of 10, and a group af 100	120	The 10 group; imagined action and symbolism for finding how many more are needed
3	The 8 group; completed and imagined action for the combining of two groups	97	Maney; pictorial problem situations involving combining and separating actions; comparing	121	The 10 group; action and symbolism for combining equal groups
4	The 8 group; completed and imagined action for separating into and comparison of two graups	98	Money; counting nickels and pennies by fives to 50 cents; counting by fives	122	The 10 group; action and symbolism for separat- ing into equal groups; finding number of groups
5	The 8 group; symbolism for combining, sep- arating into, and comparison of two groups	99	Money; caunting nickels and pennies by fives and ones to 54 cents; counting by fives and ones	123	The 10 group; action and symbolism for separating into equal groups; finding size of groups
6	The 8 group; completed action for finding how many more are needed	100	Money; introduction of quarter; relationships between the quarter and the nickel and penny	124	The 10 group; pictorial problem situations; combining and separating actions
7	The 8 group; imagined action and symbolism for finding how many more are needed	161	Money; relationships between quarter and dime, nickel and penny; counting by tens and fives	125	The 10 group; table of basic facts; practice with all groups taught
8	The 8 graup; completed and imagined action for the combining of equal groups; symbolism	702	Money; counting one quarter, dimes, nickels, and pennies by tens, fives, and ones	126	Pictorial problem situations and symbolism; combining and separating actions
9	The 8 group; action for separating into equal groups; finding how many groups; symbolism	103	Money; pictorial problem situations; counting and camparing amounts of money	127	Pictorial problem situations and symbolism; combining and separating actions
0	The 8 group; completed action far separating into equal groups; finding size of groups; symbolism	10/1	Fractions; distinguishing between parts that are halves and not halves, fourths and not fourths	128	Vertical form for the addition and subtrac- tion basic facts
1	The 8 group; imagined action for separating into equal groups; finding size of groups; symbolism	105	Fractions; distinguishing between parts that are halves and not halves, fourths and not fourths	129	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
2	The 8 group; pictorial problem situations; com- bining and separating actions	106	The 9 group; completed and imagined action for the combining of two groups	130	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
3	The 8 group; table of basic facts; practice with all groups taught	107	The 9 group; completed and imagined action for separating into and comparison of two groups	131	Preparation far higher decade basic facts; re- grouping by 10 and groups smaller than 10
4	The 2 and 4 groups; action for combining of two groups; action for separating into two groups	108	The 9 group; symbolism for combining, separating into, and comparison of two groups	132	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
5	The 4 group; action for combining two equal groups and separating into two equal groups; symbolism	109	The 9 group; completed action for finding how many more are needed	133	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
6	Foundation for ratio concept; identifying equal groups with equal number of similar objects	110	The 9 group; imagined action and symbolism for finding how many more are needed	134	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
7	Foundation for ratio; distributing equal number of objects to equal groups	111	The 9 group; action and symbolism for combining equal groups and separating into equal groups	135	Preparation for higher decade basic facts; re- grouping by 10 and groups smaller than 10
8	Foundation for ratio; practice with both ideas developed on pages 86 and 87	112	The 9 group; pictorial problem situations; com- bining and separating actions	136	Inventory and review; combining two groups; practice with basic facts
,	Pictorial problem situations; combining and separating actions; practice	113	The 9 group; table of basic facts; practice with all groups taught	137	Inventory and review; separating groups; compaing; finding how many more are needed; practic
0	Number system; completed action for grouping by tens and ones; preparation for hundreds	114	Pictorial problem situations and symbolism; combining and separating actions	138	Inventory and review; combining equal groups; separating into equal groups; ratio; number system
1	Number system; completed action for grouping by hundreds, tens, and ones	115	Pictorial problem situations; money, measure- ment, basic facts	1	Inventory and review; measurement; counting and comparing amounts of money
2	Number system; symbolism with tallies and num- bers for groups of hundreds, tens, and ones	116	The 10 group; completed and imagined action for the combining of two groups	140	Inventory and review; practice with addition and subtraction basic facts in vertical form

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Summary of Mathematical Content

Numbers and the number system

Numbers and in number system

One-to-ane correspondence
One-to-Iwa and Iwa-to-one carrespondence
Ordinal use of numbers 1 to 10
Recognition of graups of 3, 5, 7, 9, and their cammon characteristics
Recognition of groups of 2, 4, 6, 8, 10, and their common characteristics
Ocunting by ones (from any starting point) to 999

Counting by ones (from any starting point) to 999
Counting by tens (from any starting point) to 990
Counting by fives to 50
Reading and writing numbers to 999
Place value through hundreds
Readiness far concept of ratio

Addition of whole numbers

Cancept of addition
Basic facts through sums of 10
Regrouping quantities of 11 to 18 as readiness far
the higher decade basic facts

Subtraction of whole numbers

Concept of subtraction
Basic facts through minuends of 10
Regrouping quantities of 11 to 18 as readiness for
the higher decade basic facts
Comparison of two groups by subtraction
Finding how many more are needed

Multiplication

Readiness for concept af multiplication Basic facts through products af 10 (informal)

Division

Readiness far concept of division (situations with number of graups unknown and situations with number in each group unknown) Basic facts through dividends of 10 (informal)

Measurement

Concept of standard unit Inch, foot, and their relationship Pint, quart, and their relationship

Money

Recognition of cent (penny), nickel, dime, and quarter Value relationships among these coins Counting maney by fives and ones to 54 cents Counting money by tens and anes to 99 cents

Fractions

Recognition of 1/2 and 1/4 of one thing

Vocabulary List

This list contains all 158 words included in Numbers in Action. For children who have completed the Basic Reading Series through Our New Friends, only the 63 words printed in boldface type will be new.

8	eight		taok		subtract	66	
	five		tay		yau	69	beds
	faur		were	45	Ellen	•	buy
	nine	19	birds		less		needs
	ane		chickens		money		she
	seven		kittens		Nancy	70	3116
	six		oranges		pennies	71	had
	ten	21	apples		than		cents
	three		Billy		Tom	/2	dime
	two		baats	40	made		feet
14			bottles	40	an		nickels
	are		child		sleds	7.5	
	be		children			/5	mice
	dogs		Don		snawmen		turtles
				51	equal	//	blocks
	eating		for		pictures		horses
	how		has	54	ducks		frogs
	in .		have		each	80	number
	is		he		flying		same
	many		put		groups	83	
	more		some		now	85	
	pig		with		pond	89	
	plus	24	big		they	97	cost
	rabbits		box	55			much
	running		can	57		103	enough
	squirrels		caakies	59	as	108	blue
	the		this		inch		elephants
	then	27	all		inches		red
	to		boxes		iust	110	clowns
	will		from		long	111	
	yard		man		longer	113	quarter
17	a		taking		umbrella	114	
	away		there		which		milk
	ball	29	bags	60	foot		garden
	bays		plants		little	120	
	Carol	30	•		10	121	bees
	cars		standing		shorter	122	
	dolls		store		table	123	
	girls	21	da	42	pints		sticks
	gaing		baskets	02	quart	125	SIICKS
	house	33	books		bears		
	left			05			
	minus		cows		brown	136	
			men		flowers	137	
	of		wagons		white	138	
	playing	34	add		yellow	139	



QA 135 N97 1951 NUMBERS IN ACTION/

40030979 CURR HIST

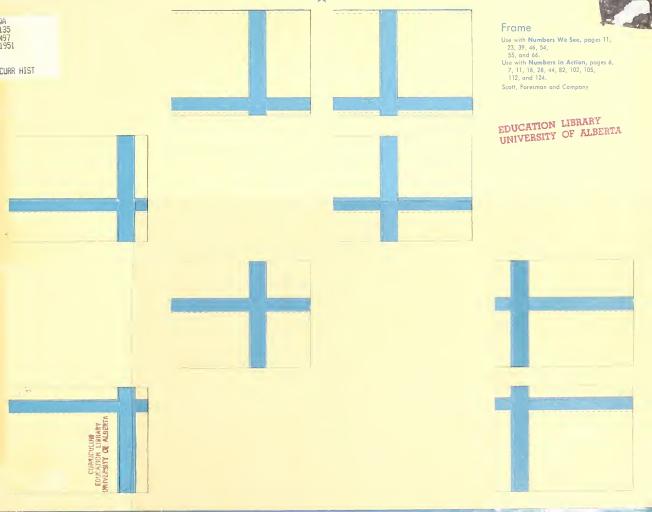


CONTENTS:

1 frames

1 windows in pocket

540,000	1	1	1
OCT 1 5	ETURN		
5.			
FEB 4	KETURN		
-			
MAR 25	RETURN		
	- 042		



QA 135 N97 1951 NUMBERS IN ACTION/

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CONTENTS:

- 1 frames
- 1 windows in pocket

100		1	,
OCT 15	ETURN		
(
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		Windows Use with Numbars We See, pages 19, 27, 68, and 69. Use with Numbers in Action, pages 32, 56, and 84. Scott, Foresman and Company
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EDUCATION LISRARY UNIVERSITY OF ALBERTA		

QA 135 N97 1951 NUMBERS IN ACTION/

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CONTENTS:

- 1 frames
- 1 windows in pocket

(40)	1	1	1
OCT 1 5	KETURN		
9			
FEB 4	KETURN		
-			
MAR 29	RETURN		

Date Due

